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JOURNAL OF THE

# IOWA MEDICAL SOCIETY

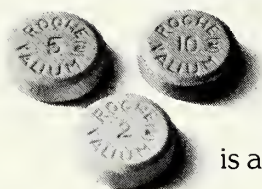
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JANUARY 1980 / ISSN 0021-0587



# A character all its own.



Valium (diazepam/Roche) is a benzodiazepine with a character all its own.

Pharmacologically, it is a potent skeletal muscle relaxant and anticonvulsant (in adjunctive use), as well as an antianxiety agent. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

But the individual character of Valium is even more apparent clinically than pharmacokinetically. And far more significant. That's because of the patient response obtained with Valium. A response which brings a calmer frame of mind. A response which has a pronounced effect on the somatic symptoms of anxiety, particularly muscular tension. A response which helps the patient feel more like himself again because of the way Valium reduces the overwhelming symptoms of anxiety and psychic tension.

Another important aspect of the clinical character of Valium is safety. Though drowsiness, ataxia and fatigue are possible, these and more serious side effects are rarely a problem. Of course, as with all CNS-acting drugs, patients taking Valium should be cautioned against driving, operating dangerous machinery or the simultaneous ingestion of alcohol.

Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

**Valium<sup>®</sup> IV**  
**diazepam/Roche**  
2-mg, 5-mg, 10-mg scored tablets  
a prudent choice in psychic  
tension and anxiety

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium<sup>®</sup> (diazepam) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500; Tel-E-Dose<sup>®</sup> packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10.



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# JOURNAL OF THE Iowa medical SOCIETY

JANUARY 1980 / VOLUME 70 NUMBER 1

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**ABOUT THE COVER —** Two Iowa helicopter services are now moving critically ill or injured persons to treatment sites. One is the University Hospitals' Air-Care Emergency Helicopter Service. This service began last April and on pages 17-18 you will find a short description of the cases handled. The cover photo shows a motorcycle accident victim being rushed from the 'copter to the University's Comprehensive Emergency Treatment Center. Photo credit: University Hospitals





## PRESIDENT'S PRIVILEGE

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**A**T THE AMA interim meeting last month, the Council on Medical Education released a report entitled, "Future Directions for Medical Education." It calls for major changes in the direction of undergraduate and graduate medical education. As did the Millis Commission Report in the 60's, this new document could become the blueprint for medical education in the next decade.

One proposal is for a return to the rotating internship in the form of a required year or two of a "comprehensive residency" before the start of any specialty residency. Similar training was standard as recently as 10 years ago.

This emerging interest in renewing comprehensive training has come principally from the highly specialized and technical specialties. It is not clear whether the need for this additional general training is to better prepare the student for the residency training of the specialty or for actual entry into practice. This and other questions asked of the AMA Council led to referral of the report to the Board of Trustees for further study. This action will give us all an opportunity to review and comment further on a policy statement that could have a far-reaching impact on the future of medical education.

Many older physicians, looking back on personal experiences with rotating internships, speak longingly of the good-old-days when all doctors were generalists first and specialists second. Many, at first thought, see no reason why we cannot return to what now seems to have been a "golden era" in medicine.

Before making too hasty a decision in favor of such a regressive change, a critical look must be taken at the progress in medicine since the heyday of the rotating internship. All of medicine has become more complex. Diagnostic and therapeutic procedures have become many times more technical than any period in medical history. Development of skills in these areas requires intensive physician training; it must then be followed by regular application if the skill is to be maintained. Skills peculiar to all specialties, including primary care medicine, become rusty if not used.

With the ever-rising standards of medical practice that a physician is required to meet, there is little opportunity to practice beyond the boundaries of the specialty in which training has been received. Adding another year or two of general training beyond medical school is unlikely to have sufficient sustained effect to permit practice outside a physician's specialty.

If the basic preparation in medical school can be shown to have been inadequate for residency training, changes should more appropriately be made in the curriculum at that point rather than trying to resurrect the rotating internship into a setting where it was unable to survive less than 10 years ago.

*Paul M. Seebohm M.D.*  
Paul M. Seebohm, M.D.

# VOX DOCS

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Our January question is at the bottom of the page. Please jot down your opinion and send it to us. Just below are comments provided with the answers to the December question. Your interest and participation are appreciated.

"I support the finding; mild vasodilation; relaxation, feeling of well being; increased appetite before meal." — *Roland Erikson, M.D., Davenport*

"People who drink and limit themselves to 2 ounces or less daily are also very likely to discipline and limit themselves in exposure to other risk factors." — *John Clancy, M.D., Iowa City*

"Scientifically, this may be true, but I doubt it. Even if true, the sociological implications are dangerous. And, of course, "if a little helps, more is better." — *R. E. Donlin, M.D., Harlan*

"Control of consumption is very difficult and problematic. I have seen several deaths due to heart disease associated with excessive alcohol use." — *L. K. Berryhill, M.D., Ft. Dodge*

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## LAST MONTH'S QUESTION — SMALL AMOUNT OF ALCOHOL! GOOD OR BAD?

Do you support or reject the idea there is a lowered risk of coronary heart disease with daily consumption of small amounts (2 oz or less) of alcohol, as a recent JAMA article reported?

<b>SUPPORT</b>	<b>38%</b>
<b>REJECT</b>	<b>62%</b>

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"Alcoholics have a greatly increased incidence of heart disease, so I would doubt it." — *William L. Jackson, M.D., Sioux City*

"Have seen coronary disease on people who do use small amounts of alcohol." — *Paul From, M.D., Des Moines*

"Because most patients do not keep the amount at 2 ozs or less, they gradually increase it to more and more." — *Clive R. Ayers, D.O., Atlantic, Iowa*

"I reject the finding. Alcohol is a myocardial depressant altering the contractile properties of the myofibrils and the conduction of the electrophysiologic impulses producing the contraction." — *F. Wm. Bennett, M.D., Marion*

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## JANUARY QUESTION FOR IOWA PHYSICIANS

In 1978, a poll of U. S. physicians taken by the Gallup Organization for the AMA had a 53 % response in favor of national health insurance (NHI). A late 1979 poll saw only 38 % of the physician respondents feeling a need for NHI. What is your current position on NHI?

☐ Believe it is needed

☐ Believe it is not needed

Comment why, please. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_





## QUESTIONS - ANSWERS

**NORMAN C. JOHNSON, R.Ph.  
DES MOINES**

### UPDATE ON MARIJUANA

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*Mr. Johnson is executive secretary of the Iowa Board of Pharmacy Examiners. This state agency is responsible for implementation of the marijuana law enacted in 1979.*

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**Please give us a brief status report on the new Iowa law which allows use of marijuana for limited medical purposes.**

Iowa statutes now permit the use of marijuana or tetrahydrocannabinols as an investigational new drug. The program being developed in Iowa includes the following salient points:

(A) The State (Board of Pharmacy), in conjunction with a principal investigator, will prepare and submit a plan or protocol involving the investigational use of marijuana or THC to FDA.

(B) The State, through the Board of Pharmacy, will act as the sponsor of the investigation and assist the investigators in the preparation of the protocol. In addition, the Board will be responsible for monitoring the project and for insuring that all necessary reports are filed with FDA.

(C) Supplies of marijuana or THC will be

provided by FDA either directly to the principal investigator or to them through the Board office.

(D) Marijuana or THC will not be available to physicians or patients on prescription.

**Could you review what the law provides?**

Essentially, the law mandated that the Board of Pharmacy adopt rules for the development of a research program for the medicinal use of marijuana. It further required the Board to organize an advisory group of physicians to advise the Board on the type of program to be established, the qualifications of those who will be eligible to dispense the marijuana, and the federal regulations governing the program.

In addition, the legislature moved marijuana, tetrahydro-cannabinols, and chemical deviations of tetrahydrocannabinols, to Schedule II of the Iowa Uniform Controlled Substances Act, but only when they are used for medicinal purposes pursuant to rules adopted by the Board of Pharmacy Examiners.

**Is the medical advisory body appointed and functioning? Are you still seeking the approved clinical investigator which is apparently required?**

The physicians advisory group has been organized and it is functioning. The group consists of 4 physicians, including 2 oncologists, one ophthalmologist and one psychiatrist. Yes, we are still seeking a principal clinical investigator. Physicians who might wish to participate, who have some interest and thoughts about developing an investigational protocol, should contact me at the offices of the Board.

**Do you know how many other states have laws of this type? Is there any indication as to usage and benefit?**

A total of 16 states have passed legislation which allows the medicinal use of marijuana. At the present time, only 3 states have programs which are operational. These states are: New Mexico, Illinois and Washington. These programs are, for the most part, double blind, randomized studies and have not been completed or in process long enough to have any published data available.

# Category I CME — What Does It Mean?

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In 1979 a symposium on continuing medical education was held at IMS headquarters. It was sponsored jointly by the Society and the University of Iowa College of Medicine. Category I CME programming was a primary discussion topic. This summary of the symposium has been prepared by Lou Crist and Richard M. Caplan, M.D., Office of CME, U. of I. College of Medicine.

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IMPLEMENTATION of the new Iowa mandatory continuing education law is good reason for there to be broad physician understanding of what is a Category I continuing medical education (CME) program, what accredited sponsorship entails, and how this sponsorship is obtained.

Stated briefly, by way of review, a Category I educational activity, no matter what agency is its accredited sponsor, has the following characteristics:

- There has been careful advance planning. If the primary sponsor is not itself accredited for CME by the American Medical Association, then such an accredited agency needs to be sought as a co-sponsor. It is necessary for planning to be done in concert with the accredited co-sponsor.

- There have been educational objectives established for the enrollees.

- The learning activities have been selected to achieve the stated objectives.

- The instruction is provided by well-qualified faculty which often includes at least one teacher from the approved sponsoring or co-sponsoring group.

- There will be an evaluation of the educational activity.

- Information as to sponsorship and credit is contained in all publicity material.

- There is a record compiled of enrollment and other pertinent information.

- The fiscal aspects (budgeting and accounting) are attended to carefully.

As stated, to be Category I, a CME offering must be sponsored or co-sponsored by an organization accredited by the AMA. In Iowa, there are 7 such institutions. They are:

**University of Iowa College of Medicine**  
**Cedar Rapids Medical Education Program**  
**Mississippi Valley Regional Blood Center**  
**(Davenport)**  
**Iowa Methodist Medical Center (Des Moines)**  
**Mercy Hospital-Medical Center (Des Moines)**  
**Jennie Edmundson Memorial Hospital (Council Bluffs)**  
**Iowa Heart Association**

Each of these organizations, if serving as a co-sponsor, is obliged by terms of its accreditation to seek a joint planning meeting at the outset. This planning is to include designated representative(s) of the sponsoring organizations. The purpose is to develop a "planned program of CME," defined by the AMA as one that covers a subject area in the scope and depth appropriate for the intended audience and which is *planned, administered and evaluated* in terms of educational objectives that define a level of knowledge or a specific performance to be attained. Planners need to develop the method for registration and stor-



age of program description material, evaluation summary and registration information. *They should also expand their sense of what must be learned and what methods, other than a lecture or string of them, will accomplish it.*

Informational brochures should include program goals; location, date and time of the program; target audience; hour-by-hour schedule; the accredited sponsor or co-sponsor; names, titles, etc., of faculty, and a brief statement of credit in words precisely stipulated by the AMA.

Evaluation methods should (1) be determined during the planning stage; (2) relate to the program objectives; (3) judge the likelihood of improvement in quality, effectiveness or efficiency of the physician's professional activities.

The AMA has an informational booklet to

explain policies, procedures and criteria for Category I CME activities. In addition, a September supplement to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is published annually. This supplement lists continuing education courses to be offered in that academic year by the various accredited institutions.

In July and August each year, the AMA informational booklet and applications for the Physician's Recognition Award are mailed to all eligible physicians. Additional copies may be obtained from the AMA Department of Physicians Credentials and Qualifications, 535 North Dearborn Street, Chicago, Illinois 60610 (312/751-6294).

Those wishing to discuss CME needs may contact the College of Medicine or any of the groups noted previously in this article.

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## REFRESHER COURSE FOR THE FAMILY PHYSICIAN FEBRUARY 12 TO 15

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The 1980 Refresher Course for the Family Physician will occur in Iowa City February 12 to 15 under sponsorship of the University of Iowa College of Medicine, the Department of Family Practice and the Iowa Academy of Family Physicians.

The FP Refresher Course is accredited for 25.5 hours by the American Academy of Family Physicians and for the same amount of Category I credit toward the AMA Physicians' Recognition Award. Full information is available from the Office of Continuing Medical Education, U. of I. College of Medicine, Iowa City, Iowa 52242. Telephone: 319/353-5763.

This Annual Refresher Course will provide family physicians a stimulating and practice-oriented opportunity to learn what is new in medical thinking, and to brush up on what is old. Practical applications will be emphasized. Brief lectures, panels, small group discussions, question and answer periods, lunch with the experts, printed course syllabus, self-

assessment quiz, computer-assisted instruction, basic CPR certification — all of these will be combined to provide a fast-moving and useful educational experience.

Because the JCAH now requires hospital staff members to attain annual certification in basic cardiopulmonary resuscitation, the opportunity will be provided for registrants to become certified while attending the course.

Among the 1980 program topics are — *Treatable Brain Disease in the Elderly, Stop Starving Cancer Patients, Are Any Drugs Safe During Pregnancy?, Drug Spotlight: Anti-Epilepsy and Anti-Migraine Drugs, Acute and Chronic "Hot" Ears, Doing Something About Deep Vein Thrombosis, Stresses in a Medical Marriage, How to Recognize and Deal With An Outbreak of Communicable Diseases, and Workshop in Cardiac Auscultation.*

The 1980 Refresher Course for the Family Physician will include a faculty of over 50 persons. Individual instruction is available. Registrants' spouses are cordially invited to attend. Many of the presentations this year will be of interest to them. They are also encouraged to become certified in basic CPR. The program begins at 8:15 a.m. on Tuesday, February 12, and continues until adjournment at 1 p.m. on Friday, February 15.





## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

### JOHN PAUL II AND TELEVISED INSTRUCTION

A huge number of people gathered in Des Moines recently to see the Pope. I was not there, but I also "saw" the Pope that same evening at home. In fact, I submit that I saw him much better indeed than all but a very tiny per cent of the people who took great pains to go see him. The marvel of my superb view was accomplished, of course, by modern television.

The same kind of close-up camera work can provide any of us with superb views of athletic events, speeches, concerts, ballet and drama, to say nothing of public ceremonials such as an inauguration, the assassination of Lee Harvey Oswald, or "live" scenes from a battleground. All these activities can be heard and viewed so magnificently from comfortable seats at home that I puzzle why anyone would go out of his way to see the Pope, or go to athletic or cultural events, or for that matter, attend a live continuing education program of any sort.

My friend, Dr. Paul Young at the University of Nebraska, tells me that when an overflow

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

### POLITICS SEMINAR

How to effectively participate in the political process will be the theme of a February 13 seminar at the Iowa Medical Society. The

crowd registers for a large continuing education meeting, he invites the overflow-ers to sit in an adjacent room and watch the presentation on television. On subsequent days, if vacant seats appear in the main auditorium, he invites the overflow-ers to make use of these seats to observe the live presentation. Almost incredibly, the overflow-ers stay put and continue to watch the television monitors. Such an observation testifies:

- a. how readily people adapt to undesirable circumstances;
- b. to the compelling power of a television screen;
- c. how inertia is even more of a universal phenomenon than Newton ever guessed;
- d. that televised instruction is superior to live instruction;
- e. that people feel it's less embarrassing to snooze in front of a television monitor than in front of a live speaker;
- f. all of the above;
- g. none of the above.

In spite of television's seductive abilities, I think most of today's physicians would opt for a live instructor rather than a televised one. Perhaps it is the *potential* for direct interpersonal events that makes the live encounter preferable. The possibility exists for an emotional experience, not just an intellectual one. That is why those who saw the Pope in Des Moines will remember it long after the occasion has been forgotten by those of us who saw it only on TV.

Television has increased, not decreased, the audiences for live sports and cultural events. Most of us in continuing education hope that practitioners might become increasingly willing to accept television along with live instruction. If technology improves and its price decreases so that we can have widely available interactive video, and if travel expenses increase much more, our educational environment for CME may become radically different than we know it today.

seminar is a project of the Iowa Health Council. Keynote speaker will be Roy Pfautch, a highly-regarded and entertaining political analyst from St. Louis. Interested physicians may contact the IMS about attendance.

*Editor's Note — In recent years knowledge about rational drug therapy has expanded significantly. This series of articles will provide the practicing physician with concise, topical reviews of drug therapy. The first discussion deals with the use of prophylactic antibiotics in general surgery which, until recently, was based on opinion rather than controlled trials. Recent controlled trials strongly support the use of prophylactic antibiotics in selected patients undergoing certain types of surgery. Unnecessary use of prophylactic antibiotics is expensive and may lead to serious complications. Thomas Vargish, M.D., Department of Surgery, University of Iowa Hospitals and Clinics, presents his view of prophylactic antibiotics in general surgery here.*

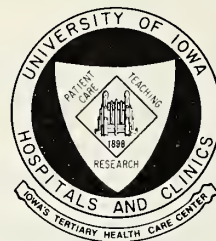
## PROPHYLACTIC USE OF ANTIBIOTICS IN SURGERY

Controversy over the use of "prophylactic antibiotics" has raged for decades — flamed by a lack of well controlled randomized studies. More recently, a sufficient amount of evidence has become available to provide guidelines for a rational approach to the prophylactic use of antibiotics in surgery.

For this discussion, the use of the term "prophylactic antibiotics" will be defined as the initiation of antibiotic therapy just prior to or during an operative procedure. The duration of treatment should not exceed 48 hours and must be specifically differentiated from the therapeutic use of antibiotics directed against a specific infection. The goal of this type of antibiotic utilization is to minimize the incidence of postoperative sepsis with its attendant morbidity while avoiding the complications of prolonged antibiotic therapy. These complications include: drug toxicity, bacterial overgrowth by another pathogen, or the development of resistant strains of an already present pathogen.

To achieve these ends, high levels of antibiotic must be present before the skin incision is made or as soon thereafter as possible. Burke

## DRUG THERAPY REVIEW



## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

has shown experimentally that antibiotic therapy can alter an infectious process only when given before or within 3 hours of bacterial inoculation.<sup>1</sup> Antibiotic selection is an important aspect of the regimen; it should be chosen based on the most likely pathogen expected to cause an infection and the known spectrum of sensitivity for that organism.

While the use of "prophylactic antibiotics" may be accepted conceptually, the implementation of this program in individual patients or procedures remains controversial. Known factors which characterize the high risk patient are: age, obesity, malnutrition, immunologic suppression, rheumatic valvular heart disease, diabetes mellitus and preexisting infection.<sup>2</sup> Patient selection may be less difficult using these factors as criteria.

Surgical procedures can be divided into a number of broad categories based on a national study of wound infection rates.<sup>3</sup> For this discussion, 3 groups were used. The first group consists of procedures with a low risk of infection and include those categorized as "clean" or "clean contaminated" cases. Examples of the former include first time inguinal hernia repairs and thyroid operations while examples of the latter would be procedures on non-obstructed gastrointestinal tract without spillage. As a rule, the risk of infection in each is very low, usually less than 10%,<sup>4</sup> and the use of



prophylactic antibiotics under ordinary circumstances probably would not be indicated.

The second group of procedures consists of the high risk operations including those designated as "contaminated" and "dirty" cases. Examples of the former include cases of biliary tract or intestinal obstruction and elective colon operations, and examples of the latter include the treatment of established infection and penetrating abdominal trauma with uncontrolled spillage. The incidence of sepsis is sufficiently high in these cases, usually greater than 15%,<sup>4</sup> to justify the use of prophylactic antibiotics in an attempt to lower the postoperative morbidity.

The third group of procedures consists of those which do not, in and of themselves, carry a high risk of sepsis but where such infection would have devastating consequences for the patient. Examples include all procedures where synthetic material is implanted as in hernia repairs or vascular reconstructive procedures. Prophylactic antibiotics are indicated in these situations to prevent any chance of infection.

Using the guidelines as outlined, high risk patients and patients having surgical procedures in the latter 2 high risk categories would be appropriate candidates for prophylactic antibiotics. These guidelines may be further extended to include all thoracic and abdominal procedures in which the respiratory, gastrointestinal or urologic systems will be opened during the course of surgical treatment. Justification for these extended guidelines is confirmed in studies of large series of patients, both randomized and nonrandomized, which have shown a decreased incidence of infection when prophylactic antibiotics have been used.<sup>5-8</sup>

The manner of implementing this regimen has varied with individual authors from a 3 dose program<sup>5</sup> to 24 hours of therapy.<sup>6</sup> Polk *et al* in 1969<sup>7</sup> demonstrated that 3 doses of a single antibiotic were adequate to decrease wound infection rates. Recently Stone *et al* have shown that continuing treatment for 5 days after operation did not decrease wound infection rates more than the 3 dose program.<sup>8</sup> Three doses of parentally administered antibiotic given one hour prior to operation and followed 6 and 12 hours later with similar doses of the same antibiotic are adequate prophylaxis. This method will provide the desired protection to the pa-

tient with minimal risk of complication. However, all authors agree that treatment must be started prior to or during operation.

This discussion would not be complete without some mention of antibiotic selection. When skin flora or organisms from the oropharynx (as in esophageal or gastric operations) are the expected pathogens, gram-positive coverage with penicillin or, in the case of *Staphylococcus* species, methicillin, is appropriate. With biliary tract disease, gram-negative coverage with an aminoglycoside or cephalosporin is appropriate. In cases of intestinal obstruction and trauma, both aerobic and anaerobic coverage must be achieved with aminoglycosides and clindamycin or metronidazole.<sup>9</sup> Polk and Stone have demonstrated that cephaloridine and cefamandole are also beneficial in colon surgery<sup>7, 8</sup> but cephalothin has not been shown to be as effective in these operations.<sup>10</sup> Finally, when the etiologic factor of an infectious process has been identified, the antibiotics should be selected on the basis of this pathogen and its expected sensitivity.

In summary, using the guidelines as outlined for patient, procedure and antibiotic selection, a regimen of 3 doses of parental antibiotic will lower postoperative sepsis and safely permit the use of "prophylactic antibiotics" without unnecessary risks. However, no antibiotic regimen can replace a carefully planned, well performed surgical procedure. — THOMAS VARGISH, M.D. Assistant Professor, Department of Surgery

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## SCIENTIFIC ARTICLES

# Air-Care Emergency Helicopter Service: A Six-Month Update

ANDREA JENSEN, THOMAS VARGISH, M.D., and  
JOE TYE

Iowa City, Iowa

THE NEED for rapid inter-hospital transport services for critical patients has been demonstrated in studies across the country. A landmark study by the National Academy of Sciences found that up to 70% of trauma fatalities in the United States occur in rural areas.<sup>1</sup> A study in California by Waller showed a fatality rate for rural motor vehicle accidents to be 4 or 5 times greater than the fatality rate for injuries sustained in an urban area.<sup>2, 3</sup> Waller concluded in his studies of rural trauma that deficiencies in emergency transportation, personnel, equipment and inadequate medical facilities correlated with decreased chance for

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*The Air-Care helicopter has transported 304 individuals to University Hospitals in its first six months of use. Brief illustrations are given of instances where use has been made of this new service of the Emergency Treatment Center at University Hospitals.*

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survival.<sup>2, 3, 4</sup> Houtchens, in a study of trauma in Utah, found that a rural physician sometimes can use immediate advice to manage patients with multisystem injuries and preserve life. The physician may also need a means of rapidly transporting the patient to a major critical care facility with adequate care en route.<sup>5</sup>

### AIR-CARE EMERGENCY HELICOPTER SERVICE

The University of Iowa Hospitals and Clinics established the *Air-Care* Emergency Helicopter Service in April, 1979. This service provides emergency medical care and expeditious transport for critically ill and injured patients across Iowa. *Air-Care* is staffed by nurses who are specially trained in emergency medical care, and physicians or other health care professionals when necessary. As of October 1,

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THE SCANLON MEDICAL FOUNDATION/IOWA MEDICAL SOCIETY HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF JANUARY 1980.



1979, 304 patients had been airlifted to the Comprehensive Emergency Treatment Center at University Hospitals for specialized care. *Air-Care* has transported patients with a variety of emergent conditions including head injuries, burns, multi-system trauma, acute myocardial infarction, gun-shot wounds, high-risk obstetrical problems, and metabolic and organ system failure. The following cases illustrate the variety of patients who have been transported by *Air-Care*.

*Case 1:* A 69-year-old male farmer was taking his tractor out to plow when he felt crushing chest pain radiating to his left arm and jaw. He was taken to his local hospital where an EKG showed an anterior-inferior wall myocardial infarction. After it was determined the patient had developed 3° heart block, the Emergency Physician Consultation Service at University Hospitals was contacted. By mutual consultation it was decided to fly a cardiologist to the local hospital to insert a temporary pacemaker. After being stabilized, the patient was transferred by *Air-Care* to the University Hospitals coronary care unit. The patient made satisfactory progress and was discharged one week later.

*Case 2:* A 12-year-old boy fell 20 feet while hang-gliding and was found lying supine in a corn field. The local ambulance service called for *Air-Care* while en route to the scene. The helicopter arrived with an Emergency Treatment Center staff physician and an *Air-Care* nurse. The patient was promptly resuscitated and transported 30 miles away to University Hospitals. Within 45 minutes following his accident, the patient was in University Hospital's operating room for repair of significant internal injuries. The boy did well postoperatively and was discharged 21 days later.

*Case 3:* A 21-year-old male was hit by a truck while working on an interstate road crew, sustaining injuries to both lower extremities. He was taken to a regional medical center where he was found to have multiple fractures and severe hemorrhage from the left popliteal artery. A vascular clamp was applied in the

Emergency Department to the left common femoral artery to control the bleeding. He was transferred to University Hospitals by *Air-Care* while receiving his eighth unit of whole blood. The patient was evaluated by members of the vascular surgery, general surgery and orthopedic teams and taken immediately to the operating room. He did well postoperatively and was discharged 60 days after admission.

*Case 4:* Following an industrial accident, two men, ages 19 and 20, suffered chemical and flame burns over 95% and 78% of their bodies, respectively. Both men were taken to a regional trauma center where the emergency physician requested *Air-Care*. The patients were transported together to the Burn Unit at University Hospitals. The 19-year-old subsequently succumbed to his burns, but the 20-year-old was discharged 32 days after his admission. He will receive ongoing rehabilitation treatment at University Hospitals.

#### CONCLUSION

The *Air-Care* Emergency Helicopter service is representative of a commitment by University Hospitals to help develop a comprehensive emergency medical service system in Iowa. *Air-Care* has helped to save lives by providing rapid transport and a high level of medical care. Through consultation with community physicians, *Air-Care* has been utilized in many new ways that were not originally anticipated by University Hospitals staff. *Air-Care* and related services at University Hospitals, in addition to other improvements being made around the state, have the potential to make Iowa a model for the development of a statewide emergency medical services system in a rural state.

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# Intracranial Aneurysms and Subarachnoid Hemorrhage

HAROLD P. ADAMS, JR., M.D.

NEAL F. KASSELL, M.D.

A. L. SAHS, M.D.

Iowa City

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*High mortality persists for those suffering a ruptured intracranial aneurysm. Operative treatment is desirable among good risk patients. The timing of surgery is discussed as part of this review article.*

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SUBARACHNOID HEMORRHAGE from a ruptured intracranial aneurysm annually afflicts approximately 12 of every 100,000 people. It accounts for about 8% of all strokes. The overall 30-day mortality rate for this condition remains close to 45%.

Early diagnosis and appropriate emergency care are keys to the management of these patients. Altered consciousness, seizures, nuchal rigidity and focal neurologic signs are prominent. About 20% of the patients have subsequent retinal hemorrhage. While most patients have sudden, catastrophic headache, nausea, vomiting and neck pain, some have much less precipitous symptoms. Atypical cases may present with "flu-like" symptoms or with prominent lower back pain.

Examination of the cerebrospinal fluid (CSF)

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The authors are associated with The University of Iowa College of Medicine: Dr. Adams and Dr. Sahs are members of The Department of Neurology and Dr. Kassel is a member of The Division of Neurosurgery, Department of Surgery.

is the primary diagnostic procedure. The CSF is bloody in virtually all cases, certainly if the lumbar puncture is performed several hours after the "bleed." Cerebral angiography demonstrates the presence and location of an aneurysm. It also detects vasospasm, a complication of subarachnoid hemorrhage which increases the likelihood of morbidity and mortality. Angiography is performed as soon as the patient is clinically stable, and both carotid and vertebral arteries are visualized.

Computerized cerebral tomography (CT scan) is the newest diagnostic advance in the evaluation of these patients. Most aneurysms are too small for direct visualization by the CT scan. However, this procedure detects subarachnoid blood and may indicate location of a clot, thus helping to identify the site of hemorrhage. It is particularly valuable in demonstrating intracerebral or intraventricular hemorrhage. Secondary hydrocephalus and cerebral infarction are identified. Radionuclide brain scans, echoencephalograms and electroencephalograms are of modest assistance in the diagnosis of subarachnoid hemorrhage and its complications.

## THERAPEUTIC AIMS

The aims of therapy are: survival of the patient in the acute period following subarachnoid hemorrhage, prevention of subsequent aneurysmal bleeding, and treatment of the ischemic complications of vasospasm. Some patients die quite soon from the acute effects of the hemorrhage. Causes of death include massive intracerebral hemorrhage with herniation, severe intracranial hypertension, acute hydrocephalus or complications such as



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**An Acute Stroke Care and Monitoring Unit is open in the Department of Neurology in the new Roy J. Carver Pavilion of the University of Iowa Hospitals. The six-bed unit provides comprehensive care of patients with acute cerebral infarction or hemorrhage. Particular emphasis is placed on the pre- and post-operative care of patients with subarachnoid hemorrhage from ruptured intracranial aneurysm. Close collaboration of the staff in neurology and neurosurgery improves the management of these critically ill patients. The stroke unit is equipped to monitor intracranial pressure and cerebral perfusion pressure as well as blood pressure, the EKG, temperature and respiration. For further information about the Acute Stroke Care and Monitoring Unit at the University of Iowa Hospitals, please call Harold P. Adams, Jr., M.D., Department of Neurology (319) 356-2571 or (319) 356-1616.**

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cardiac arrhythmias. These patients require emergent, intensive observation and care. Careful attention to the patient's airway and fluid and electrolyte status is necessary. Convulsions may be treated by intravenous phenytoin or phenobarbital. Administration of intravenous mannitol, 0.5 mg/Kg body weight in a 20% solution in about 30 minutes, may be required if the patient appears to be suffering from life-threatening intracranial hypertension.

The patient should not receive large doses of narcotic analgesics, potent sedatives or major tranquilizers. Cardiac arrhythmias, including premature contractions, atrial fibrillation or conduction abnormalities can appear. Electrocardiographic changes may mimic those of a myocardial infarction. Myocardial injury with elevation of cardiac muscle enzymes sometimes results from the stress of the intracranial event. Secondary hypertension is often severe. Fluid and electrolyte disturbances result from the inappropriate release of antidiuretic hormone or rarely from concomitant acute diabetes insipidus. Gastrointestinal hemorrhage can be induced by the stress of the intracranial bleeding or the associated vomiting. The complications can be so severe as to mask the underlying neurologic illness. All require prompt management.

The most common and serious complication of subarachnoid hemorrhage is a second aneurysmal bleed which occurs in 30% of patients surviving the initial hemorrhage. It pro-

duces sudden neurologic deterioration often with sudden increase in headache. The risk of rebleeding is at its peak in the first 10-14 days after the initial ictus. A second CSF examination will usually provide conclusive evidence of recurrent bleeding.

The continued risk of new bleeding is the prime indication for operation. Surgical procedures include clipping the aneurysmal neck, isolating the aneurysm from the major arterial circuit, coating the aneurysmal wall with a supportive substance or injecting a thrombus-inducing agent into the aneurysm. Advances in operative techniques, use of the operating microscope, and new monitoring capabilities have reduced operative mortality. However, the optimal timing of surgery is not established. Several reports suggest a higher mortality if surgery is performed in the first few days after hemorrhage than if the operation is delayed for at least two weeks. Recent experience indicates that early operation (as soon as possible after the bleed, in good risk patients) has many advantages. This requires emergent transfer (as soon as the patient's condition permits) to a facility where operation is possible in the first hours after the hemorrhage. A delay in operation leaves the patient at risk during the period of highest incidence of rebleeding. The likelihood of rebleeding can be reduced by placing the patient in a quiet, nonstressful setting and at absolute bedrest. Visitors are restricted. A soft, high-fiber diet with a 1500-1800 ml fluid restriction is supplemented by stool softening agents. Modest sedation is achieved with diazepam or phenobarbital and analgesia with codeine or acetaminophen is recommended. Propranolol, methyl dopa, hydrochlorothiazide or hydralazine are cautiously administered to control concomitant hypertension. One should not attempt to achieve hypotensive blood pressure levels. Because bedrest, supportive care and antihypertensive therapy have not significantly reduced rebleeding in the prime risk period, several medical centers have instituted preoperative administration of intravenous antifibrinolytic agents. Epsilon-aminocaproic acid (Amicar®) inhibits the conversion of plasminogen to plasmin, thus delaying the lysis of the clot which has sealed the aneurysm's rent. This therapy has reduced rebleeding during the first 14 days to 5-11% in good condition patients. The drug is administered at a daily

dosage of 36 gm in a constant intravenous infusion.

The chief cause of mortality in those patients operated soon after the initial hemorrhage is cerebral infarction. Most neurosurgeons and neurologists suspect cerebral vasospasm (a narrowing of arteries coming 5-10 days after the bleed) as the source of these strokes and a cause of early morbidity in the non-operated patients. Many of the factors involved in development of vasospasm are not known. A vasoactive substance released or induced by the subarachnoid blood is the suspected etiology. Angiography confirms the presence of vasospasm. The caliber of visualized vessels may be only a fraction of the anticipated size and can involve vessels remote from the aneurysm. Though several clinical trials have produced hopeful results, no definitive therapy is available. At present, treatment is supportive. Fortunately, cerebral vasospasm gradually resolves, though ischemia-induced sequelae are frequent.

#### BRAIN SWELLING

Brain swelling with intracranial hypertension may accompany the acute hemorrhage or rebleeding or may appear with cerebral vasospasm and infarction. It usually reaches maximal severity in the first week. Elevation of the head of the bed and restriction of fluids (1500-1800 ml/day) can reduce intracranial pressure. Corticosteroids can be helpful. Intravenous mannitol, sustained hyperventilation and con-

tinuous drainage of cerebrospinal fluid are more aggressive therapies to be used. In cases of profoundly increased intracranial pressure, continuous pressure monitoring is necessary to guide aggressive treatment.

#### CONCLUSIONS

Those patients surviving the acute bleed and who do not have operative repair of the aneurysm remain at high risk of a second hemorrhage for the remainder of their lives. After one year, one can expect a yearly 3% incidence of rebleeding and 2% mortality due to the aneurysm. Unless medical contraindications exist, operative treatment of the aneurysm is recommended. In good risk patients, an operative mortality of less than 5% can be achieved. A patient's life can be made secure only by obliteration of the aneurysm.

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## ENERGY ASSISTANCE

Iowa physicians should be aware of the existence of the State Energy Crisis Assistance Program (ECAP). Certain patients may qualify for help through this short term federally-funded, state-administered program. Up to \$400 is available in 1980 per eligible household.

Items for which short-term financial assistance is offered include emergency fuel supplies, warm clothing, blankets, firewood, fuel oil delivery, temporary shelter, nutrition,

health and emergency household repairs. Eligibility is based on household income no higher than 125% of the poverty guidelines established by the Community Services Administration. Short-term assistance for health costs will require a statement from a physician indicating the given illness is related directly to lack of adequate heat.

Iowans may apply for assistance through local Community Action Agency offices. Further information may be obtained via a toll-free state number — 1/800-532-1532.





Portrait of Fracastorius from his  
HOMOCENTRICA, Venice, 1538.

## Girolamo, Germind

JOHN MARTIN, M.D.

Clarinda, Iowa

SINCE 1867, when Lister first published his studies on antiseptics, practicing physicians have enjoyed increasing success in the battle against infectious diseases. The past century has seen a continuously widening panorama of discovery of the cause and treatment of almost every known infectious process; for example, Neisser, 1879, the gonococcus; Koch, 1882, the tubercle bacillus; Schaudinn, 1905, the spirochete; Gelmo, 1908 and Domagk, 1935, the sulfanilamides; Flemming, 1929, penicillin; and in recent years the production of a wide choice of powerful antibiotics.

A great many other scientists and their discoveries could be listed in the conquest of these scourges which have plagued mankind for centuries. The names of the diseases, if not of their first investigators, are known to most medical students and physicians. Diagnostic methods are well worked out; cure in most cases is taken for granted. Some contagious diseases have been practically obliterated or at least reduced as to be of rare incidence. Who has recently

seen a patient with smallpox or typhoid fever? Where are the atrophied limbs of recent polio victims? Who knows of a recent death from anthrax? Leprosy is now definitely curable.

There is much history involved, history which includes sweat, poverty, discouragement, abuse, despair, and repeated failure, as well as success, sometimes with, often without, acclaim. The history of those attainments in our understanding of contagion brings us to our present fortunate state and should be known to every student of medicine; it might restore some sense of gratitude which seems to have been lost. We need to know something of the roots of a tree to appreciate its strength, beauty, and benefits.

As early as the 4th century before Christ, the Hippocratic School recognized different diseases because of their different symptoms. They recognized that animals ordinarily do not have the same diseases as man. They were aware that some diseases, as the plague, swept unrelentingly through populations regardless of sex, age, or social standing. They saw that certain parts of the body could be destroyed while other parts were left intact. They knew marsh fever (malaria) was prevalent in the miasmatic atmosphere of swampy areas. Galen, Oribasius, Alexander of Tralles, Paul of

The author resides in Clarinda, Iowa and has devoted much effort to the study of medical history. Virtually the entire collection of over 1,200 volumes located in the John Martin Rare Book Room at the University of Iowa Health Sciences Library have been donated by Dr. Martin.



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## A HISTORY OF MEDICINE PRESENTATION

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*A debt of inestimable magnitude is owed a sixteenth century physician named Fracastorius. He was a man of many exceptional talents. He was the first to state the true nature of disease germs. His writings are described here.*

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# and the Shepherd Boy

Aegina, Aëtius of Amida, and other such Byzantine writers recognized specific characteristics of individual diseases and gave their favorite remedies. However, they touched little on the causes. Rhazes (865-925) first described measles and smallpox, but he seemed uninterested in the cause, perhaps because then knowledge of cause lagged far behind that of treatment. The great Arabic translators and compilers of the late Middle Ages noted that some diseases seemed to come from person-to-person contact, but that others came "from afar." The simplest explanation was that the calamity of disease was a disciplinary act of God. It became popular, too, in the centuries before the Renaissance, and even later, to believe that certain celestial effects of the chance conjunction of planets Saturn and Mars could produce atmospheric changes which precipitated epidemics. Even Fracastorius, among his other attributes as astronomer, admitted the possibility of astronomical factors in contagion. Leprosy, sweating sickness (influenza?), impetigo, smallpox, typhus, typhoid fever, tuberculosis, exanthemata, and especially bubonic plague, all lay like a festering cloud over western Europe, afflicting impartially Christian, Jew and Moslem.

Hieronymus Fracastorius (Girolamo Fracas-

toro<sup>10</sup>), was born at Verona in 1478 (not 1483, as most bibliographers state<sup>10</sup>). He had many illustrious contemporaries in that illustrious age: Achillini, Berengario da Carpi, Leonicens, Montanus, Conrad Gessner, Rondolet, Dryander, Copernicus, Vesalius, Leonhard Fuchs, Paracelsus, Martin Luther, Cardano, and many others whose lives have so greatly influenced history, and medical science in particular.

Fracastorius was educated in Padua which, with Verona, was annexed to Venice. He took his medical degree while still a young man. From 1501 to 1508 he was a lecturer in logic at the University of Padua. Born of a patrician, but not wealthy, family, he might have remained a distinguished faculty member at Padua had it not been for the political storms in Italy which caused changes of his benefactors from time to time according to the political and Papal winds. He was called to be physician at the 20-year long Council of Trent in 1545. While this was a considerable honor, at the end of two years he decided this was not the sort of life he wished. He returned home and spent the rest of his life at his Villa Incaffi on the shores of Lake Garda. He had actively practiced medicine from 1509 until 1530. Without financial worry and with sufficient agility to

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## A HISTORY OF MEDICINE PRESENTATION

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avoid the Inquisition, he lived a long, happy, studious and productive life. He was free to study the stars, read the classics, write poetry (some of it good, some of it indifferent, but all of it acclaimed by his friends to be equal to that of Lucretius and Virgil!), study geology, philosophy and mathematics, and to enjoy the benefits of a country gentleman. He was said to have been of a hearty disposition, physically rugged and in good health, serious in conversation, intolerant of fools, and with a good sense of humor. He died quietly and suddenly after what was apparently a cerebral vascular accident on August 6, 1553, in his beloved Incaffi. His burial place is uncertain. Shortly after his death the city of Verona erected, and now in its Piazza dei Signori, a beautiful marble statue of their favorite son: geographer, geologist, astronomer, musician, poet, philosopher, mathematician, and above all biologist. The right hand of the statue holds an armillary sphere: Fracastorius the Cosmographer.

It is a never-ending wonder that the human mind in its ceaseless effort to arise above the sordid conditions of antecedent centuries should, suddenly, in the late 15th century, have burst out into the amazing phenomenon which we call the Renaissance. Especially is that true in Italy. Epidemics that decimated whole areas of Europe, constant warfare, poverty, starvation, wretchedly unsanitary living conditions even for the rich as well as for the poor, the strife within the Church, the threat of the Inquisition: none of these could discourage or stop the questing mind of Renaissance Man in the broad field of science. Old dogmas, as those of Galen, dared to be doubted. God's anger was less and less accepted as the cause of man's disasters. Cosmic influences were both questioned and studied. The students of the day tossed off the old bonds of Scholasticism for the all-encompassing culture of Humanism, armed their thoughts and actions with logic and reason, and tried to find natural, earthly causes for the condition of man. As he sat in the peaceful air of Incaffi, without worry or pressure, Fracastorius had time to think about such things, to observe and reason about

the underlying causes of the many diseases common around him. Out of those fruitful years came his two most important works, works which were to influence and hasten the understanding of the basic nature of contagious diseases. These are the poem, *Syphilis, sive morbus gallicus*,<sup>2</sup> and the even more important long book, *De sympathia et antipathia rerum liber unus. De contagione et contagiosis morbis et eorum curatione, Libri III.*<sup>1</sup> With this Fracastorius established himself as the first epidemiologist.

### FRACASTORIUS ON SYPHILIS

It is quite possible Columbus' sailors did bring back from the New World in 1493 a disease which resembled, or actually was, the terrible and mystifying "pox" which was even then spreading rapidly over Europe. As early as 1506, Spanish authors described a disease thought to have been contracted by Columbus' men in Santo Domingo. But the same lesions were already present in persons who had never been out of their native European city or ever had contact with the returning Spaniards. (Could the Spaniards have had yaws or other topical ulcers similar to luetic lesions?) With the constant movement of armies throughout western Europe, and especially after the invasion of Naples by French troops in 1495, the disease became so prevalent its cause was a matter of wild conjecture among theologians, philosophers, astrologers and physicians. No one was spared. Serfs, university professors, merchants, church officials and royalty all suffered alike, and the hideous, painful sores appeared on the peasant as on the prelate.

Fracastorius recognized this strange malady was not really new, that in fact it had been active in Europe before it blossomed as the "French Disease" in Naples. He did not accept the then prevailing concept of its having been brought from America, but he did believe it could also be present in America. He knew only this disfiguring, loathful, often fatal disease had for some reason, probably after a period of relative quiescence, suddenly revealed itself with such violent epidemic proportions that it was no longer a sometime sporadic thing. But the argument as to the geographic origin of syphilis continues, and though it will not be solved, it does spark the curiosity of the student of medical history.

Fracastorius is best remembered by modern readers for his long poem in the Virgilian tradi-



tion, *Syphilis, sive morbus gallicus*, first written in two books in 1525. No printed copy is known, and it may never have gone beyond manuscript form. His good friend and literary critic, Cardinal Bembo, advised him to revise it, to include a section on the use of guaiac. This was done, and the re-written work as we know it was published in Verona in 1530. As poetry it is sometimes in faulty meter, freedom with spelling is taken to suit the needs of meter, and it is overburdened with florid wordiness. It is nowadays hardly recognized as having Virgilian quality. But it was timely. It was widely acclaimed, it brought the author immediate fame on its account alone, and over the centuries it has been translated into several languages and published in over a hundred editions. It has a secure place in the literature of medical history.<sup>4</sup>

*Syphilis, sive morbus gallicus* is written in three books. It totals 1300 Latin hexameters. Book I deals with the possible sources of the disease. Did Mars, Jupiter and Saturn, in political conclave on the summit of Olympus, announce a fatal decree and create a disease-laden miasma which settled on the earth? Was this some sort of a *contagium vivum*? Was the contagion due to vapors originating on earth, or in the skies? The strange and varied nature of the contagion puzzled the poet. "A subtle poison at once spreads itself in the ether and disseminates its pernicious effluvia throughout the immensity of space."<sup>11</sup> There follows a strikingly accurate description of the course of the disease, painfully clinical in detail, from the appearance of the first chancre on the genitalia; to the ulcers, rashes, joint pains and crises throughout the body in the second stage; to the third stage with its lasting, crippling, often lethal effects. It is not pleasant reading. Book I ends with a lament for the untimely death (1506) of Fracastorius' friend, Marcantonio della Torre, an honored anatomist who, with Leonardo da Vinci, had planned a large anatomical work that never came to fruition. We may safely assume that Fracastorius did not believe syphilis was divine punishment. His intellect had taken him far beyond that point, and he was already busy observing, making records, and logically summarizing his ideas about the "germ theory," as his other great work indicates.

Book II, using a rather trite classical form, tells how the Syrian hunter, Ilceus, was

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**Both of these major works of Fracastorius in first editions are present in the John Martin Rare Book Room, Health Sciences Library, University of Iowa, Iowa City, Iowa.**

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stricken with the disease but was cured by a friendly nymph, Callirhoe, who led him to a secret grotto and there bathed him in mercury. Then follows directions for the course of treatment with mercury. It must have been messy. "At the beginning, mercury was employed associated with lard; later it was combined with the turpentine of Epirus and with the resin of the majestic birch. Certain physicians today combine it with horse fat or bear's grease, bellium and with the juice of cedar, others with myrrh, with male incense, with mibium and with burning sulphur. For my part, I prefer to alloy it with a mixture of black hellbore, orris root, galbanum, asafetida, oil of mastic, and oil of native sulphur. Patients, a truce to the disgust which may be caused by this remedy! For if it is disgusting, the disease is still more so. Besides, your cure is the price. So without hesitation spread this mixture on your body and cover with it your entire skin, with the exception of the head and the precordial region. Then, carefully wrap yourself in wool and tow; then get into bed, load yourself with bed coverings and thus await until a sweat bathes your limbs with impure dew. Ten days in succession renew this treatment, for ten entire days you are to undergo this cruel trial whose beneficial effects will not cause you to wait. . . . Very soon you will feel the ferments of the disease dissolve themselves in your mouth with a disgusting flow of saliva, and you will see the virus, even the virus, evacuate itself at your feet in rivers of saliva."<sup>12</sup> Now the treatment completed and the patient cured, he may once more recall Bacchus with Falerian wine to the table, and presumably greet Venus again in bed. The pharmacology of the treatment is discussed with more detail and professional accuracy in the work on contagion.

Book III is concerned with the use of decoctions of guaiac wood and the story of the shepherd boy, Syphilus, who was cured by this medication.<sup>13</sup> Columbus had already described the use of guaiac wood in the treatment of what Fracastorius assumed to be syphilis in American aborigines, though he, Fracastorius, always favored mercury over guaiac. Again,



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## A HISTORY OF MEDICINE PRESENTATION

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the author uses a classical legend to illustrate his point. Syphilus was a young herdsman in the country of King Alcithous (Haiti?), and when his flocks died of thirst during a very dry season, he cursed Apollo for this drought and his loss, renounced the God, and built an altar to his own king. The whole nation accepted this, including Alcithous. Apollo was infuriated, and sent a new disease to punish the boy, afflicting him with "*turpes achores*" (foul ulcers), decaying flesh, convulsions and great pain. Syphilus had syphilis, and soon so did all the rest of the populace. But a benign wood nymph, Ammerice,<sup>8</sup> Interpreter for the Gods, taking pity on the boy and the people, said that a sacrifice would be necessary, after which the earth would produce a tree which would have curative powers. To appease Apollo the people were about to sacrifice Syphilus when Juno commanded that a calf be slain instead (cf. Abraham and Isaac). The tree appeared, and the decoctions made from its wood effected a cure. Happiness reigned. Later the tree was transplanted across the oceans where "Thy groves in Europe's nobler climb to grow" and "Too, blest if Bembus (Cardinal Bembo) live their growth to see."<sup>13</sup> Nowhere in the poem is there any suggestion of moral reproach in having the disease, or that it has any venereal origin. In the work on contagion, however, Fracastorius clearly recognizes the venereal nature of syphilis.<sup>14</sup>

### OID SIT CONTAGIO?

Though he carried on a voluminous correspondence, wrote poetry, and read widely, Fracastorius was also busy dissecting the world around him. All this time he stayed free of the dangerous and time-consuming animosities in which the Church and the State entangled many of the good minds of those troublesome years. He was particularly interested in and perplexed by the origins of contagion in general. He was intrigued by the manner in which epidemics appeared, sporadically and in widely separated times and places. He considered the effects of heat, moisture, geographic location, the weather, the cleanliness of dwellings and cities, public baths, the quality

of food and water. He tried to relate the various bodily humors, heat and cold, wet and dry, spiritual and physical, to the process of disease. He wondered why some members of a family would die of an infection and others remain untouched. Tuberculosis, for instance, had long been recognized as a clinical entity, but why, thought he, does it affect mainly the lungs? Why does it suddenly appear in one individual and not in his associates? He was well acquainted with the history of the disastrous plague of 1348-1350, so well described by Boccaccio in the *Decameron*.<sup>7</sup> The plague broke out in Verona in 1510, at which time he cautioned the city authorities, to no avail, that better public sanitation should be enforced for prophylaxis. He knew, as we know now, that filth is a major cause of many contagious diseases. He wondered why fever was such a common finding in various individual symptom-complexes. In 1528 a wave of "lenticular fever," now called typhus, raged through Italy, killing thousands, and in observing these patients Fracastorius noted many differences in this "fever" from that in many other illnesses which commonly, for want of clearer understanding, were simply called "fever."

Following the publication of his popular poem he continued to write, but nothing he produced was as important to him or to us as his great work on contagion which appeared in 1546. In 1534 he wrote an essay, *De vini temperatura*, and in 1538 a more important philosophical work, *Homocentrica sive de stellis* (approximately "having the same center as a sphere, or the earth").

Written in faultless classical Latin and dedicated to the then Cardinal Alexander Farnese, the work on contagion is made up of three books: Book I, *De contagione*; Book II, *De contagiosis morbis*; Book III, *De contagiosorum morborum curatione*. The introduction to the book is a long essay on the probable relationship between contagion and the principles of Attraction and Repulsion of Things, or Sympathy and Antipathy, *De sympathia et antipathia rerum*.

Book I. ". . . contagion is an infection that passes from one thing to another. For, to produce contagion, two factors must always be present, though they may be either two different things or two continuous parts of the same thing. . . . The infection is precisely similar in

both the carrier and the receiver of the contagion."<sup>15</sup>

"There are, it seems, three fundamentally different types of contagion: the first infects by direct contact only; the second does the same but in addition leaves fomes, and this contagion may spread by means of that fomes, for instance scabies, phthisis, bald spots, elephantiasis and the like. By fomes I mean clothes, wooden objects, and things of that sort, which though not themselves corrupted can, nevertheless, preserve the original germs of the contagion and infect by means of these; thirdly, there is a kind of contagion which is transmitted not only by direct contact or by fomes as intermediary, but also infects at a distance; for example, pestilent fevers, phthisis, certain kinds of ophthalmia, exanthemata of the kind called variolae, and the like."<sup>16</sup>

Contact with putrefaction, as when a good apple becomes rotten after contact with an already rotten apple, is used as an example of contagion by contact. Moisture and heat were recognized as active principles in both that example and in actual contagion by contact. Germs which cause contagion by contact are of the same nature as those present in fomes, and such germs may reside in the fomes for a long time, without alteration, only later to produce the typical disease. Warm and viscous substances containing germs may reside in the pores of fomes in a dry state, as in soot or smoke, in bedding, on floors and walls, later to infect by direct or indirect contact. But contagion from a distance was more difficult to explain. Such contagion obviously acts with a different impetus, a special force. Certainly occult power has nothing to do with contagion at a distance.

"Now, in these contagions, not only putrefaction must be produced, but also from the original germs other germs must be begotten and propagated that are similar to those former germs both in their nature and combination."<sup>17</sup>

"For the original germs which have adhered to the neighboring humors with which they are analogous, generate and propagate other germs precisely like themselves, and these in turn propagate others, until the whole mass and bulk of humors is infected by them."<sup>18</sup> Air, moisture, and animal heat all work to allow these germs to penetrate the blood vessels, from the smallest in the skin to the great deep vessels, whence they are carried to the heart,

the seat of greatest heat. Contagion might be simply defined as a putrefaction passing from one thing to another, but since disease does not always occur through direct contact, these germs must have great activity because they may pass from one body to another or from fomes even from a distance, and therefore putrefaction alone is not the basic cause. Germs are powerful in action, viscous, difficult to destroy, and have both a material and spiritual antipathy to the animal organism. With logical progression each chapter deals with such subjects as why some diseases are more contagious than others, how contagion differs from poisons, and the signs and differential diagnosis of contagious diseases. Fracastorius sensed the presence of a virulent, active *contagium vivum* in this remarkably original display of inductive reasoning.

Book II explains with almost modern accuracy the clinical signs of a wide variety of diseases prevalent at that time. Fracastorius has given the first description of typhus, differentiating it from other fevers. Contrary to the flat statement of ancient authors, Fracastorius showed that rabies could come only from the bite of a rabid animal.<sup>19</sup> He recognized the venereal source of most cases of syphilis and described its three stages, and he knew that the disease could also be congenital.<sup>20</sup> Leprosy, scabies, and various other cutaneous diseases are described and differentiated.

Book III opens with the statement that special, individual treatment is necessary for every contagious disease, though general principles, as the observation of sanitation, apply in all cases. Prophylaxis as well as active treatment is an important part of combatting disease, and it is recognized that all remedies do not suit all patients. Detailed instructions are given for the preparation of guaiac decoctions. The use of the China root is mentioned but apparently Fracastorius had little faith in its effectiveness. Sweating, evacuations, blood-letting, and repeated whole-body unctions with ointments of mercury were his favorite remedies for the "love pestilence."

Book I will attract the epidemiologist; Book II will fascinate the practicing physician; Book III will puzzle and entertain the pharmacologist. But any student of the biological sciences will read with amazement this book so far ahead of its time, so packed with logic (even if touched with what we condescendingly call the



"quaintness" of that age), with statements and arguments of startling prescience.

Thus Fracastorius, a man of many talents, was the first to state the true nature of disease germs, though in necessarily simple and limited terms. He was the first to state their mode of transmission and the basic processes by which they produce diseases so widely different in nature. "Molecular attraction" and "chemical affinity" were terms he would have found useful.<sup>21</sup> He never saw a microorganism, he knew nothing of colloidal systems,

of incubation, of cellular division, or how germs really propagate, yet he was, more than 100 years before Leeuwenhoek and his microscope, and the great scholar Athanasius Kircher, able to discuss the bacterial role in disease almost with clairvoyance, a sixth sense. To this keen mind and disciplined observer, this lucid writer, to this total Renaissance Man, we owe an everlasting debt.

#### REFERENCES

The references contained in this paper are available on request either from the authors or from the JOURNAL OF THE IOWA MEDICAL SOCIETY.

## IN-STATE MEDICAL MEETINGS

- Jan. 25      Pediatric Toxicology — St. Joseph Mercy Hospital, Mason City — Sponsors: St. Joseph Mercy Hospital and U. of I. College of Medicine
- Feb. 12      Bronchoscopy: Indication and Results — St. Luke's Methodist Hospital, Cedar Rapids — Sponsor: Cedar Rapids Continuing Medical Education Program
- Feb. 19      Review of Prostatic Carcinoma — St. Joseph Mercy Hospital, Mason City — Sponsors: St. Joseph Mercy Hospital and U. of I. College of Medicine
- Feb. 21      Hemotherapy for Cancer and Leukemic Patients — Moline Lutheran Hospital, Moline, Illinois — Sponsor: Mississippi Valley Regional Blood Center
- Feb. 21      Tumors in Orthopedics (3:30 P.M.) — St. Luke's Methodist Hospital, Cedar Rapids — Sponsor: Cedar Rapids Continuing Medical Education Program
- Feb. 21      Sports Medicine (7:15 P.M.) — St. Luke's Methodist Hospital, Cedar Rapids — Sponsor: Cedar Rapids Continuing Medical Education Program

- Mar. 12      Update on Gastrointestinal Disorders — Mercy Hospital Medical Center, Des Moines — Sponsor: Mercy Hospital Medical Center
- Mar. 28      Chronic Abdominal Pain in Children — St. Joseph Mercy Hospital, Mason City — Sponsors: St. Joseph Mercy Hospital and U. of I. College of Medicine

*The following postgraduate courses and conferences will occur at U. of I. College of Medicine in Iowa City*

- Jan. 26      Radiation Therapy Seminar
- Feb. 1-3      Advanced Cardiac Life Support Provider/ Instruction, Waterloo
- Feb. 6      Ophthalmology Clinical Conference
- Feb. 12-15      Refresher Course for the Family Practitioner
- Feb. 20      Emergency Procedures for Physicians
- Feb. 23      Radiation Therapy Seminar
- Feb. 25-28      Cardiology Today
- Mar. 3-4      American College of Physicians/Medical Knowledge Self Assessment Program
- Mar. 5      Ophthalmology Clinical Conference
- Mar. 12      Diet Therapy U.S.A.
- Mar. 14      Critical Decision in Trauma, Ottumwa, Iowa
- Mar. 24-28      Intensive Course in Pediatric Nutrition
- Mar. 27      Emergency Procedures for Physicians
- Mar. 27-28      Conference on Perinatal Medicine, Des Moines
- Mar. 30      Radiation Therapy Seminar





## COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### JANUARY

*"For the young, the future lies ahead. For the Now age, the future is here. For the old, the future is remembrance of things past."* — MALCOLM FORBES

It is appropriate for January, the first month of the year, to commemorate Janus, the Roman god whose two faces are set in opposite directions. This is a time to reflect on the past and contemplate the future. Some would say we should never look back, only ahead. However, it is appropriate as we enter a new decade to take stock of the past, the present and the future.

Much has changed our professional management of disease and physical disability in the past decade. Perhaps the most striking change has been the ever-increasing control of the use of drugs by the Food and Drug Administration. A landmark case in point involved the removal by the FDA of 78 fixed-ratio antibiotic combinations from the market. The Upjohn Company challenged the position of the FDA regarding the product Panalba (tetracycline and novobiocin). In February, 1970, an appeal court upheld the FDA's position, and this served as precedent for many other drug edicts by the federal government. The rulings continue to come down from Washington about ineffectiveness versus effectiveness of drugs. We have had to change our prescribing habits, and have had to become much more explicit in informing patients about possible adverse reactions. Some of the rulings have been rather nebulous, but for the most part, they are in the general best interest of the patients.

Surgical advances the past decade have been wondrous. Cardiac arterial by-pass procedures, joint replacement techniques, laryngeal replacements, and newer methods of gallstone removal are but a few of the innovations of the past decade.

Computers have provided us with new and advanced capabilities for establishing more accurate diagnoses with less consequential discomfort to the patient. The CAT scanner is the most notable example here.

Perhaps the greatest impact on health care delivery in the United States during the 1970's has been the ever increasing involvement of patients in their care. Consumers have become more knowledgeable about themselves as well as what is available to them. Many books have been published to provide patients with self-care information; whether it is good or bad is sometimes debatable. This has also increased public assertiveness in terms of questioning the medical profession about disease and its treatment. Man has always had an interest in his well-being, and folk medicine is as old as antiquity, but now it seems there is a new deluge of books, action groups, and self-proclaimed experts to inform the public regarding self-diagnosis and self-care. We, as a profession, perhaps because of the press of time, depend more on patients to care for themselves. We also depend more on ancillary medical personnel to do many supportive procedures.

Our hospitals and offices have become monuments to technologic advances — automatic blood-cell counters, ultrasonic devices, echocardiography, CAT scanners, complicated chemical analyzers, and extraordinary radiologic equipment. These are, of course, costly items. Ultimately, the patient pays for their use. Consequently, the cost of medicine rises, and we are assigned the blame. Yet, the patient deserves, and expects, the best. His insurance pays for it, and his insurance is paid for by his employer, thus the employer incorporates the cost in his product price, and inflation spirals ever upward. The politicians each have a solution to the problem, but it is ironic that anything the government attempts to control actually becomes more expensive.

That brings us to the 1980's. What will the next decade provide? For one thing, the government will assess the state of the union beginning on April 1, 1980, with the census of

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## EDITORIALS

(Continued from page 29)

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population and housing. It is expected the census will count approximately 222 million people and 86 million housing units. Americans have seen dramatic changes in their lives, and the 1980 census will assess these changes. It is expected that upwards of 3 billion items of information will be gathered and tabulated to give us a portrait of Americans — their location, condition, activities, and housing. Data thus obtained should have a tremendous impact on the future delivery of health services.

Some exciting medical probabilities appear to be near reality. Recently, we have heard of the first use of "artificial blood" in the United States. This fluorocarbon emulsion compounded in Japan can be expected to be available in the United States for general use in about 5 years. Biological response modifiers have become a prime interest of the National Cancer Institute. Most notable of these is interferon, which holds promise to be effective for victims of cancer, chronic infectious hep-

atitis, and herpes infections, to name a few.

Prostaglandin research and development also provides excitement for the future. These messenger chemicals exert a wide variety of effects on many important life processes. Present in almost all body tissues, they help control inflammation, pain, fever, reproduction, blood pressure, blood clotting, gastric function, metabolism, and nerve impulse transmission. The horizons seem unlimited regarding the possibilities of these substances.

We look forward to many advances in medicine, science, sociology, and general human endeavor as we enter this new decade. Let it be our goal to advance with a total purpose to provide for the good of all, free of corrupt practices which stain the fabric of our lives. And let us conserve energy resources so that life can be meaningful for those who follow us. Our destiny should consider from where our successors must emerge, so they can continue man's goals to provide for others who follow. Too frequently, we seem to be bent upon a pathway of self-destruction through unwise life practices. Perhaps the future decade can change any pattern that seems to emphasize "right" rather than "responsibility." — MEA

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## NEWS/PRODUCTS, PROGRAMS, ETC.

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*Information on various products, programs, etc. is received regularly by the IMS JOURNAL. Here are short items sifted from the mail by the Scientific Editor. A reference to a specific product is not intended to suggest any particular endorsement. Additional information on any entry may be obtained by contacting the IMS JOURNAL.*

**FOR GYNECOLOGICAL DIAGNOSIS** — A new disposable culdocentesis tray is now available from Cutter Resiflex (a division of Cutter Laboratories, Inc.), Covina, California. The sterile, stackable, sealed tray contains the necessary supplies for proper collection and sample handling.

**WIDER MARKETING** — The FDA has recently approved wider marketing of Motrin® (Upjohn) for pain relief. Motrin® was first approved in 1974 for alleviation of the discomfort of rheumatoid arthritis and osteoarthritis. The medication acts by inhibiting the production of prostaglandins. Now, the new approved uses include menstrual pain, postextraction dental pain, postoperative pain, and musculoskeletal pain such as caused by soft tissue injuries in athletes.

**INFANT DANGERS** — Parents need to be reminded often of the potential danger of small objects in the hands of infants. A recent report from the American College of Emergency Physicians tells about a 16-month-old infant suffering a perforation of the esophagus and the aortic arch. The infant succumbed to internal bleeding after swallowing a small alkaline battery which became entrapped for 3 days.

**TIME SAVER** — Arnar-Stone Laboratories, Inc., has introduced a new disposable, complete, one-piece needle/medication unit of Intropin® (dopamine-HCl) known as Intropin® Rap-Add™ System. It permits Intropin® to be

injected directly into any infusion bottle. A safety shroud prevents direct injection into the patient, while the one-way plunger design prevents aspiration. The 5 ml additive syringe contains 200 mg of dopamine HCl.

**IOWA \$94 IN 1979** — The Health Insurance Association of America reports the average daily cost of a semi-private hospital room in Iowa rose from \$86 in 1978 to \$94 in 1979. This 1979 Iowa figure compares to a high of \$179 in Alaska — to a low of \$60 in Mississippi. The figures for neighboring states are \$93 in Missouri, \$88 in Nebraska, \$82 in South Dakota, \$93 in Minnesota, \$94 in Wisconsin, and \$129 in Illinois.

**BACTERIAL ANTIBIOTIC** — Klebcil® (kanamycin sulfate) has been introduced by Beecham Laboratories. This bactericidal antibiotic, an aminoglycoside, may be considered for initial therapy in infections caused by *E. coli*, *Proteus* species, *Enterobacter aerogenes*, *Klebsiella pneumoniae*, *Serratia marcescens*, and *Acinetobacter*.

**REPORTING PROBLEMS** — Health care professionals can now dial a toll-free telephone number to report any problem with drugs, medical devices, and *in vitro* diagnostic products. The U. S. Pharmacopeia operates this program under contract with the Bureau of Drugs and Medical Devices of the FDA. The number is 1-800-638-6725. The FDA encourages health professionals to report problems such as packaging errors, defective components, erroneous information, product mislabeling, or any other situation bearing on the safety and efficacy of a product.

**OWENS-CORNING FIBERGLAS CORPORATION** recently announced availability of improved glass fiber casts which are 2-3 times stronger and 1/3-1/2 the weight of plaster. Also, the casts do not break down from exposure to water. They are suited for a wide range of general and sports-related injuries.

**ASTHMA HELP** — Martin A. Wasserman, Ph.D., research scientist in hypersensitivity diseases for the Upjohn Company, recently reported preliminarily on a new treatment for asthma. It involves medications to block stimulation of alpha receptors in the airways

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## NEWS/PRODUCTS, PROGRAMS, ETC.

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and lungs. Airway constriction by alpha receptor stimulation would be prevented when the delicate balance with beta receptors (airway dilators) is disturbed. The research has not produced immediate drug discoveries, but helps place the development of alpha-blocking agents on a firm physiologic foundation.

**MEDICAL SHAVER** — Operating room technicians can "flick their BIC" in a new way — with a disposable BIC medical shaver. BIC Pen Corporation has a new single-unit shaver with a triple-honed steel blade bonded to a lightweight handle. The shavers are available in boxes of 48 units.

**FOR EAR INFECTIONS** — Cefaclor, marketed as Ceclor® by Eli Lilly Company, has been shown in clinical trials to be effective against

common bacteria pathogens associated with otitis media in children, as well as against susceptible strains of *Haemophilus influenzae* which have become resistant to ampicillin and amoxicillin. Notably, cefaclor is effective against *Streptococcus pneumoniae*, as well as *Staphylococci*, and the gram-negative bacilli *Escherichia coli*, *Proteus mirabilis* and *Klebsiella species*. The usual adult dosage is 250 mg every 8 hours, and for children 20 mg/kg daily. Ceclor® is available in 250 mg and 500 mg capsules and as a suspension with 125 mg per 5 ml and 250 mg per 5 ml.

**MERRELL-NATIONAL LABORATORIES** recently introduced a new prescription to treat constipation. Lactulose syrup is available now under the name of Chronulac® on a prescription-only basis. Chronulac® is a synthetic disaccharide that acts exclusively in the large bowel. There, native intestinal bacteria convert lactulose to lactic acid and other simple organic acids. The resultant slight acidity is believed to stimulate intestinal muscular activity and also increases the amount of water retained in the fecal mass.

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## November 1979 Morbidity Report

Disease	Nav. 1979 Total	1979 to Date	1978 to Date	Most Nav. Cases Reported From These Counties
Amebiasis	1	78	158	Dubuque
Brucellosis	0	7	17	—
Chickenpox	731	7985	6298	Pattawattamie, Linn
Cytomegalovirus	0	10	16	—
Eaton's Agent infection	4	43	128	Decatur, Polk
Encephalitis, viral	8	71	29	Story, Allamakee
Erythema infectiosum	0	1081	50	—
Gastroenteritis (GIV)	2564	18111	13280	Linn, O'Brien, Marian
Giardiasis	10	44	54	Des Moines, Johnson
Hepatitis, A	16	181	132	Polk, Scott
Hepatitis, B	8	89	91	Linn, Polk
type unspecified	5	65	58	Linn
Herpes simplex	13	77	89	Johnson, Linn
Herpes Zoster	1	2	8	Black Hawk
Histoplasmosis Infectious	0	2	3	—
mononucleosis	39	471	1119	Black Hawk, Linn
Influenza, lab confirmed	0	34	202	—
Influenza-like illness (URI)	5197	51163	40397	Polk, Winneshiek
Meningitis				
aseptic	14	24	36	Delaware, Dubuque
bacterial	12	109	65	Scott, Webster
meningococcal	3	14	17	Muscatine
Mumps	5	240	174	Polk
Pertussis	0	3	3	—
Robies in animals	22	181	133	Josper, Marshall
Rheumatic fever	0	10	28	—
Rubella (German measles)	0	16	58	—
Rubeola (measles)	1	53	64	Lee
Solomonella	28	176	182	Dubuque
Shigella	9	75	69	Scott
Tuberculosis				
tubercill	6	64	97	Polk, Woodbury
bact. pos.	5	56	72	Polk, Woodbury
Venereal diseases:				
Gonorrhea	533	5452	5228	Scattered
P. & S. Syphilis	2	30	28	—

Laboratory Virus Diagnosis Without Specified Clinical Syndrome: Echovirus — 8, Scattered; Cocksackie — 2, Linn; Rocky Mountain Spotted Fever — 1, Winneshiek; Campylobacter — 6, Dubuque.

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## ABOUT IOWA PHYSICIANS

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**Dr. Roy Wanamaker**, Hamburg physician 50 years, was featured recently in a *DES MOINES REGISTER* story on the life of a country doctor. A lifelong Hamburg resident, Dr. Wanamaker has practiced in the red brick building used by his father before him. He is quoted as saying he remembers making house calls with his father in a horse and buggy. He, too, still makes house calls. Dr. Wanamaker received the M.D. degree at the University of Nebraska and opened his practice in Hamburg in 1929. Dr. Wanamaker concluded, "The really good doctors are the ones who discover things for the rest of us to employ." . . . The Kidney Foundation of Iowa has named **Dr. Harold C. Rankin**, Mt. Pleasant, as its president; **Dr. Lawrence G. Hunsicker**, associate professor, Department of Internal Medicine, U. of I. College of Medicine, a vice president; and **Dr. Fred G. Smith**, professor and chairman, Department of Pediatrics, U. of I. College of Medicine, chairman of the Foundation's Medical Advisory Board. . . . **Dr. Anthony Sweeney** opened a family practice in Dyersville in December. Dr. Sweeney received the M.D. degree at Northwestern University Medical School and completed his family practice residency at Cook County Hospital in Chicago. . . . **Dr. Gary Leitch**, Council Bluffs, was guest speaker at a recent meeting of the Council Bluffs Rotary Club. Dr. Leitch, a native of Canada, discussed socialized medicine and national health care insurance.

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**Dr. H. M. Andersen**, Strawberry Point physician for 43 years, was honored recently by local residents for his medical service to the community. At the Appreciation Day ceremony, **Dr. John Tyrrell**, Manchester, praised Dr. Andersen for the medical staff at the Delaware County Hospital and presented a \$500

gift from the facility for a medical scholarship fund to be established in Dr. Andersen's name. Dr. Andersen received the M.D. degree at U. of I. College of Medicine and interned in South Bend, Indiana. He began his medical practice in Strawberry Point in 1936. . . . **Dr. Chule H. Auh** has been appointed director of psychiatric training and research at the Cherokee Mental Health Institute. Dr. Auh received the M.D. degree at the University of Seoul in Korea and had his psychiatric residency at Cherokee. Dr. Auh succeeds **Dr. E. A. Kjenaas**, who recently was named superintendent. . . . **Dr. Shanti Dhupar** recently began a pediatric practice in Washington. Dr. Dhupar received her medical education in India and has taken postgraduate training at Wayne State University Nutzel Hospital in Detroit; Albert Einstein College of Medicine in New York City; University of Wisconsin Children's Hospital in Madison, and New Jersey College of Medicine and Dentistry.

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**Dr. Herbert Gude**, Iowa Falls, **Dr. H. O. Stoutland**, Ackley, and **Eldora** physicians, **Drs. Richard Rogers, Robert Thompson** and **Raul Ruiz**, are members of a new Health Care Delivery System Advisory Study Committee in Hardin County. The group will make recommendations to the Eldora and Ellsworth hospital boards and the Hardin County board of supervisors on the immediate and future health care needs of the county. . . . **Dr. Jay Ginther**, orthopedic surgeon, has joined the Bluff Medical Center in Clinton. Dr. Ginther received the M.D. degree at Columbia University in New York City. After interning at the University of Minnesota and a residency at Northwestern University, he served two years as an orthopedic surgeon with the U. S. Navy at Charleston, South Carolina. . . . At the recent annual meeting of the American College of Surgeons, **Dr. Ralph A. Dorner**, Des Moines, was elected to the board of governors of the College as a governor-at-large from Iowa. Dr. Dorner has served on the Iowa advisory committee to the College, the Iowa College credentials committee and is a past president of the Iowa Chapter. . . . **Dr. Paul Ferguson**, Lake City, recently was honored by the Lake City Educational Association and received the Friend of Education award. . . . **Dr. Michael Richards**, Des Moines, was guest speaker at a recent meeting of the Dallas-

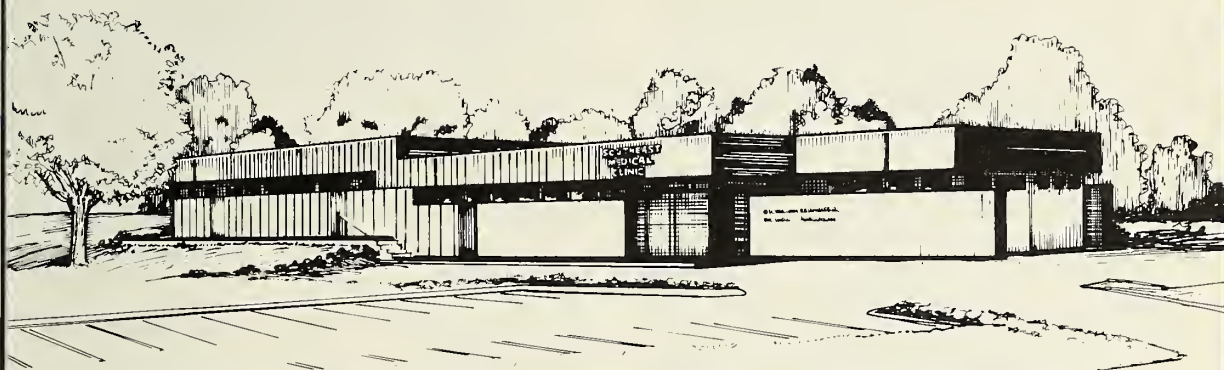


Guthrie County Medical Society. His topic, "Vascular Headaches — Etiology and Treatment." New county officers elected at the meeting are — **Dr. Herbert Neff**, Guthrie Center, president; **Dr. Robert Deranleau**, Perry, vice president; **Dr. Keith M. Chapler**, Dexter, secretary and treasurer; **Dr. Perry Weigel**, Van Meter, Dallas County delegate; **Dr. Robert Deranleau**, Perry, alternate; **Dr. Herbert Neff**, Guthrie Center, Guthrie County delegate; and **Dr. Donald Todd**, Guthrie Center, alternate. . . . Sioux City physicians, **Drs. John T. Baller** and **James E. Coker**, recently were named diplomates of the American Board of Internal Medicine Sub-Specialty Board in Cardiovascular Disease. . . . The Iowa Clinical Surgical Society met in Iowa City in November along with the Iowa Chapter of the American College of Surgeons and the Iowa Academy of Surgeons.

**Dr. Stanley Haugland**, Des Moines, **Dr. F. William Bennett**, Cedar Rapids, and **Dr. David Ferguson**, Grinnell, were program participants at recent seminar on alcoholism at

Grinnell General Hospital. **Dr. Haugland** and **Dr. Bennett** discussed respective treatment procedures at Powell III Treatment Center in Des Moines and L. B. Sedlacek Treatment Center in Cedar Rapids. **Dr. Ferguson** presented the general practitioner's viewpoint on the treatment of alcoholic patients. . . . **Dr. C. S. Tam**, Mason City, gave a slide presentation on Taiwan at a recent meeting of the Fortnightly Club in Mason City. . . . **Dr. Ronald Bush**, cardiovascular surgeon, has joined Surgical and Orthopaedic Associates in Waterloo. **Dr. Bush** received the M.D. degree at Indiana University; took postgraduate training at Marion County General Hospital in Indianapolis, Indiana, and served a cardiovascular surgery residency at Walter Reed Hospital in Washington, D. C.

**Dr. Richard Young**, Clarion, recently received the "Golden Hammer Award" from MECHANIX ILLUSTRATED and the Governor's Leadership Award in recognition of his work on a new gazebo in the Clarion City Park. **Dr. Young** began work on the 1890's type bandstand in



## WHY FIGHT THE CROWD?

A thriving medical (internal medicine [primary care], pediatrics, dermatology, ophthalmology, psychiatry, ob/gyn., general surgery, etc.) practice is ensured in professionally — uncrowded southeast area of Des Moines. Ideal practice location available next to two extremely busy physicians (F.P./Occup. Med.) in new clinic building. Corner location on hightraffic street near heart of exploding residential development. Practice would be unopposed.

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**2353 S.E. 14th Street, Des Moines, IA 50320**  
 or Phone (515) 278-8000

August, 1978 and it was completed in June, 1979. Dr. Young's next project will be the reconstruction of the original water fountain in front of the new gazebo. . . . **Dr. Edward Hertko**, director of postgraduate medical education at Iowa Methodist Medical Center in Des Moines, was guest speaker at a recent meeting of the East Central Iowa Diabetes Unit in Cedar Rapids. Dr. Hertko's talk was entitled, "Diabetes Update." . . . **Dr. Joseph Spearing**, Harlan, has been named to fill an unexpired term on the board of directors of the Health Planning Council of the Midlands. . . . **Dr. Mark Thoman**, Des Moines pediatrician, was a recent guest speaker at Lamoni High School. Dr. Thoman's topic, "Chemicals in the Body—We Must Now Pay the Piper."

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**Dr. Hubert Gude**, Iowa Falls, was elected a vice president of the International College of Surgeons at its recent annual meeting in Miami, Florida. . . . New Muscatine County Medical Society officers are — **Dr. Charles A. Honnold, III**, president; **Dr. Peter J. Stephens**, vice president; **Dr. Keith E. Wilcox**, secretary-treasurer, and **Dr. Robert W. Asthalter**, historian. All are Muscatine physicians. . . . **Dr. Addison Brown, Jr.**, Mason City, was guest speaker at the November meeting of the Wright County Medical Society. Dr. Brown demonstrated a new, ultra-sound technology for examination of the eye. . . . **Dr. Gerald E. Larson**, Elk Horn, **Dr. Robert E. Donlin**, **Dr. Lawrence V. Larsen** and **Dr. Joseph H. Spearing**, all of Harlan, were honored at a recognition banquet by the staff at the Shelby County Myrtue Memorial Hospital for their 25 years of service to the hospital. . . . **Dr. Gregg M. Galloway** recently joined the pathology department at the Marion Health Center in Sioux City. Dr. Galloway received the M.D. degree at the University of Missouri School of Medicine; interned and completed his residency at University Hospitals in Iowa City. . . . New Hamilton County Medical Society officers are — **Dr. E. Reveiz**, president; **Dr. K. Y. Lee**, vice president; and **Dr. J. X. Latella**, secretary-treasurer. All are Webster City physicians.

## DEATHS

**Dr. Royal S. Anspach**, 69, Mitchellville, died November 13 at Iowa Lutheran Hospital in Des

Moines. Dr. Anspach received the M.D. degree at Northwestern University School of Medicine and practiced in Des Moines at the Hilltop Medical Clinic, until retiring in 1974.

**Dr. George A. Bairnson**, Cedar Falls physician for 48 years, died November 16 at his home in Longboat Key, Florida. Dr. Bairnson received the M.D. degree at the University of Illinois School of Medicine. He began his private practice in Cedar Falls in 1921, retiring in 1969. Dr. Bairnson was a past president of the Cedar Falls School Board; past president of the Cedar Falls Chamber of Commerce; city health officer; charter member of the Lions Club and one of the founders of the Cedar Falls Scientific Society. In 1975, the Black Hawk County Medical Society presented him an award for 40 years of dedicated service to the citizens of Black Hawk County.

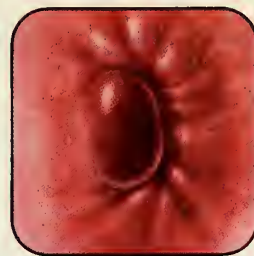
**Dr. Leslie E. Weber, Sr.**, 80, widely known Wapello physician, died November 30 at the Burlington Medical Center. Dr. Weber received the M.D. degree at U. of I. College of Medicine and interned in Philadelphia. He began his medical practice in Wapello in 1926, retiring in 1976.

**Dr. Paul W. Osincup**, 65, Sioux City, died December 1 at a Sioux City hospital. Dr. Osincup received the M.D. degree at U. of I. College of Medicine and interned at the University of Chicago. He began his medical practice in Sioux City in 1938, retiring in 1978. Dr. Osincup was a past president of St. Joseph Mercy Hospital medical staff; co-founder and past president of the Sioux City Medical Center; and charter fellow of the American Association of Family Physicians.

**Dr. Leo Kuker**, 67, Carroll, died December 1 at St. Anthony's Regional Hospital. Dr. Kuker received the M.D. degree at U. of I. College of Medicine; interned and completed his surgery residency at Charity Hospital in New Orleans, Louisiana. He located in Carroll in 1948 and founded the Kuker Clinic in 1958. He was a past president of the American Society of Abdominal Surgeons; fellow of the American College of Surgeons and fellow of the International College of Surgeons; member of the Pan American Medical Association and Pan Pacific Surgical Society and past president of the American Society of Railway Surgeons and Rives Surgical Society.



# For hemorrhoids and other anorectal conditions



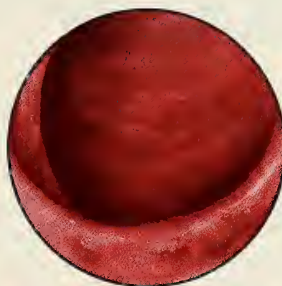
External hemorrhoids



Internal hemorrhoids



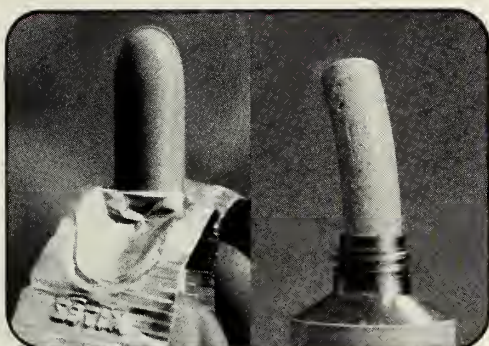
Pruritus ani



Proctitis



Anal fissures



Easy to handle,  
easy to insert,  
comfortably shaped—  
Rx only

Easy to apply,  
nonstaining—  
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## Prescribe **Anusol-HC<sup>®</sup>** Suppositories/Cream for symptomatic relief

- Effectively reduces inflammation and edema
- Rapidly relieves pain and itching

### ANUSOL-HC<sup>®</sup> SUPPOSITORIES

Hemorrhoidal Suppositories

### ANUSOL-HC<sup>®</sup> CREAM

Rectal Cream with Hydrocortisone Acetate

**CAUTION:** Federal law prohibits dispensing without prescription.

**Description:** Each Anusol-HC Suppository contains hydrocortisone acetate, 10.0 mg; bismuth subgallate, 2.25%; bismuth resorcin compound, 1.75%; benzyl benzoate, 1.2%; Peruvian balsam, 1.8%; zinc oxide, 11.0%; also contains the following inactive ingredients: bismuth subiodide, calcium phosphate, and certified coloring in a hydrogenated vegetable oil base.

Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg; bismuth subgallate, 22.5 mg; bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, bismuth subiodide, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

**Indications:** Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, anal fissures, incomplete fistulas and relief of local pain and discomfort following anorectal surgery.

Anusol-HC Cream is also indicated for pruritus ani.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol<sup>®</sup> Suppositories or Ointment.

**Contraindications:** Anusol-HC<sup>®</sup> Suppositories and Anusol-HC<sup>®</sup> Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparation.

**Warnings:** The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts, or for prolonged periods of time.

**Precautions:** Symptomatic relief should not delay definitive diagnoses or treatment. If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued and appropriate therapy instituted.

In the presence of an infection the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled.

Core should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Anusol-HC is not for ophthalmic use.

**Dosage and Administration:** Anusol-HC Suppositories—Adults: Remove foil wrapper and insert suppository into the anus. One suppository in the morning

and one at bedtime, for 3 to 6 days or until inflammation subsides. Then maintain patient comfort with regular Anusol Suppositories.

Anusol-HC Cream—Adults: After gentle bathing and drying of the anal area, remove tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain patient comfort with regular Anusol Ointment.

**NOTE:** If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

**How Supplied:** Anusol-HC Suppositories—boxes of 12 (N 0047-0089-12) and 24 (N 0047-0089-24), in silver foil strips with Anusol-HC W/C printed in black.

Anusol-HC Cream—one-ounce tube (N 0047-0090-01); with plastic applicator, detachable label.

Store between 15°-30° C (59°-86° F.)

Full information is available on request.



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# IOWA MEDICAL ASSISTANTS

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## HAPPINESS IS . . .

. . . a New Year and resolutions, showing a little extra kindness to a patient, being a little more diligent on the job. You are challenged to carry one resolution through 1980.

Happiness is sacking candy and peanuts for poor and underprivileged children of Siouxland. For 15 years, the Siouxland chapter has been official Christmas packager for Goodwill Industries. Happiness is also seeing a mother and grandmother achieve a lifelong desire — to graduate from high school. After raising 4 children, Mrs. Shirley Roupe worked at a Sioux City hospital and a doctor's office. She's now a member of the Siouxland chapter and has hopes of becoming a CMA.

Happiness is the feeling you'll get from attending the January 12 "Handle With Care" seminar in Waterloo. It's sponsored by the local group and includes educational presentations by 2 physicians and an attorney.

Happiness is finally being the IMS correspondent, and having the chance to wish all readers a happy and healthful New Year.

## NEW CONTRIBUTING EDITOR

A veteran Iowa medical assistant is the new contributing editor for this page. She is Frances M. Hansen, CMA-A, of Sioux City. Miss Hansen is marking her 25th anniversary of employment with the Sioux City Urological Associates, P.C. The group includes Dwayne E. Howard, M.D., Robert A. Boldus, M.D., Peter

## REVIEW OF OBJECTIVES

As the position of contributing editor changes hands, it may be worthwhile, for both physician and medical assistant readers, to review the objectives of the American Association of Medical Assistants. The goals are:

- *To inspire members to give honest, loyal and efficient service to the profession and to the public they serve.*
- *To strive at all times to cooperate with the medical profession to improve public relations.*
- *To provide educational services to increase the knowledge and professionalism of the membership and to stimulate a feeling of fellowship and cooperation among its societies.*
- *To encourage and assist all unorganized medical assistants to form local chapters and state societies.*

How do we as medical assistants view ourselves? Communication begins with self knowledge and self examination. A positive attitude must govern our thinking. Are we thoroughly familiar with the above questions?

The recent AAMA national convention in New Orleans underscored the organization's educational motivation. A presentation on medical record keeping by two attorneys was of significant value. Other convention programs covered confidentiality, content of records, privileged communications, releases to third party payers, and retention of records. They were timely and interesting.

Were you one of the fortunate 1,200 medical assistants who attended the 1979 national convention? If not, you are encouraged to think about attending next year's convention.

M. Poor, M.D., and John A. Wolpert, M.D. Only Dr. Howard was present when Miss Hansen began her work.

In recognition of her 25 years of service, Miss Hansen's doctor employers sent her November 6 on a 10-day excursion to Hawaii. Miss Hansen is a charter member of the American Association of Medical Assistants, Iowa Society, having joined the group at its beginning in 1955.



This Journal is owned and published monthly by the IOWA MEDICAL SOCIETY. It contains material of scientific and socioeconomic interest mainly to Iowa physicians. The IOWA MEDICAL SOCIETY has 2,900 member physicians in 92 county medical societies. The IMS Headquarters is at 1001 Grand Avenue, West Des Moines, Iowa 50265.

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# JOURNAL OF THE IOWA MEDICAL SOCIETY

**FEBRUARY 1980 / VOLUME 70 NUMBER 2**

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**ABOUT THE COVER** — William deGravelles, M.D., is Physician of the Year as chosen by the President's Committee on Employment of the Handicapped. Dr. deGravelles has been medical director and chief of physical medicine at Younker Memorial Rehabilitation Center of Iowa Methodist Medical Center since it opened in Des Moines in 1959. A polio victim as a Tulane medical student, Dr. deGravelles has gone forward to receive many honors — including this new one presented in October at the AMA Congress on Occupational Health. A mural of "Dr. D" with his patients now hangs in the Younker lobby to recognize his recent honor.



## PRESIDENT'S PRIVILEGE

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**T**HE DES MOINES REGISTER recently characterized all of our M.D. members as *stubborn* (I don't know why our D.O. members escaped) because of opposition expressed by myself and one other of your colleagues at a meeting of the Board of Health. This opposition was to the exemption being afforded certain HMO's from HSA review of capital expenditures. I offer apologies to any member who has suffered embarrassment from this class indictment triggered by my personal opinion. I hope other opinion polls of the REGISTER are based on a more representative statistical sample.

It is really too bad so important an issue is presented to the public in such a demagogic fashion. Consumers are portrayed as captives in our existing system, a system which gives the individual free choice of physician and hospital, anytime and anyplace. The real captive consumer is the HMO member, who is limited to care from that source. If he becomes dissatisfied with his care, he loses his freedom to change doctors, except within the HMO. The alternative is loss of insurance coverage.

Iowa physicians have quite a good record of cooperating with HMO development. The pilot study in Bloomfield, 5 years ago, was set up and evaluated with the full cooperation of the Iowa Medical Society and the physicians in Bloomfield. The fact it failed economically was not because of any lack of cooperation on the part of the physicians involved. Physicians are working closely with health insurers and the management of a major eastern Iowa industry to assess and in one instance implement a pre-paid health plan of the IPA type. A central Iowa health study group is receiving the cooperation

of its physician members in the making of an HMO feasibility study. Discussion between physicians, business leaders and others regarding alternate delivery systems are occurring in several Iowa communities.

The issue of whether HMO's should develop outside the health planning process is a serious question. If all provider participants in IPA's and other types of HMO's now under consideration become exempt from health planning constraints, this could involve the hospitals and physicians in at least three of the largest cities of Iowa, which incidentally have the majority of hospital beds in the state.

The HSA review process would be limited to the nursing homes and community hospitals. With the restrictions off and a revival of the spirit of competition between hospitals, we could again see a wave of construction and equipment procurement. The strong can be expected to again get stronger while the weak get weaker. If more competition in the health care system is what was intended by giving the HMO's exemption from health planning controls, why not simply repeal P.L. 93-641? Combined with FTC's edict that physicians need to advertise or be indicted for restraint of trade, the marketplace might again return to medical care and with it, control of cost.

*Paul M. Seebohm M.D.*

Paul M. Seebohm, M.D.



# THINGS YOU SHOULD KNOW

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**1980 CAUCUSES** The 1980 IMS district caucus schedule is complete and is being made known via the IMS UPDATE. The 12 district caucuses will occur in February and March. In addition to reviewing current issues and considering possible resolutions, the caucuses are held to discuss candidates for IMS offices and to select a representative to the 1980 Nominating Committee. The 1980 IMS House of Delegates meets May 3 and 4.

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**TO HEAD BC/BS** D. Eugene Sibery was named in January as the first person to serve as president of both Iowa Blue Cross and Blue Shield. Service by two chief executive officers has been the custom until now. David Neugent and William Recknor have served in those capacities most recently. Sibery has been EVP of Blue Cross and Blue Shield of Greater New York (the nation's largest such plan) since 1977. He was EVP of the Blue Cross Association from 1969 to 1977.

---

## 80 SCIENTIFIC SESSION APRIL 16\18

Get your Vitamin CME April 16, 17 and 18 at the 1980 IMS Scientific Session in Iowa City! The opportunity will be available to obtain half or more the Category I credit required for annual maintenance of your state medical license. The 1980 program will cover a variety of timely topics. Room reservations at The Highlander in Iowa City can now be made over a toll-free line - 1/800-272-6444.

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**CAMBODIA SERVICE** William Rosenfeld, M.D., Mason City internist and vice speaker of the IMS House of Delegates, left in January as the first Iowa physician member of a medical team to help sick and malnourished Cambodians. The three-month service by Dr. Rosenfeld is part of the Iowa SHARES program that began in November and has raised about \$500,000. Several other IMS members have expressed interest in providing short-term voluntary service to this program. Further inquiries about the program may be directed to Society headquarters.

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**PHYSICIAN HANDBOOK** "Disability Evaluation Under Social Security, A Handbook for Physicians" is the name of a 62-page volume to be mailed to all IMS members by the Iowa Disability Determination Services. This new yellow-covered handbook will replace its 10-year green-and-white predecessor which has been used by Iowa physicians to obtain medical reference information when patients apply for disability benefits. Over 100 sets of symptoms, signs and lab findings are in the new book to help in evaluating impairment severity.

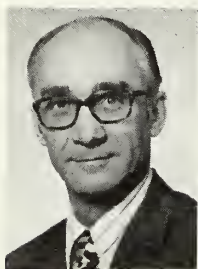
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**SURGICAL GUIDES** The Iowa Foundation for Medical Care reports near completion of guidelines having to do with assisting in surgery. The guidelines will be available from the IFMC for reference use. A \$25 charge has been established to cover printing and handling costs.

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**TRAVEL OPPORTUNITY** An August 1-14 "European Adventure" is available to interested IMS members. The IMS-sponsored trip will go to Paris, Switzerland and Italy. The deluxe arrangements are by INTRAV. Reservations are on a first-come first-served basis. Contact the IMS for more information.

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## QUESTIONS - ANSWERS

LLOYD F. MATHWICK  
DAVENPORT

### PROGRESS REPORT ON IOWA'S FIRST IPA

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*Mr. Mathwick is executive director of the new Quad-City Health Plan. The QCHP is moving toward operational status in 1980 and will be the first Individual Practice Association in Iowa. Status of the project is reported here.*

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#### **How close is the Quad City Health Plan to being operational?**

The enrollment of physicians began in late December. We have set a date of March 1 for the beginning of operations and hope to be activated by that time.

#### **Please summarize again the type of coverage program which is emerging?**

Coverage under the program is expected to be very comprehensive. Drugs, vision care and mental health will be included. We are working on these details as this is prepared.

#### **What enrollment projections have been made, say for the first year?**

We're hoping for 10,000 initially with increases of an additional 10,000 each 6 months, if appropriate.

#### **Has the support and involvement of the broad medical community been encouraging?**

Yes, the general attitude has been very good in Scott County. The Scott County Medical Society endorsed the IPA concept last May, but the organizational activity has been undertaken independently. There has not been any formal sponsorship by the Rock Island County Medical Society. There has been formation of the Independent Physicians Association of Eastern Iowa and the Independent Physicians Association of Western Illinois.

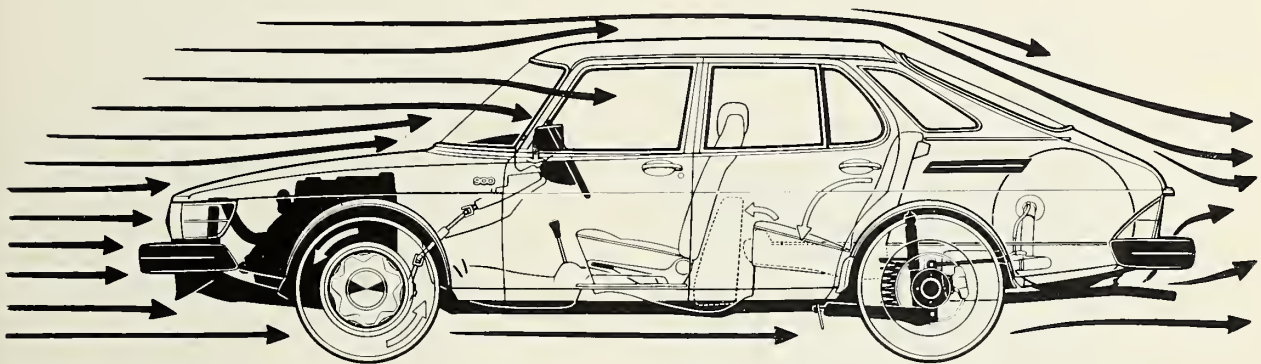
#### **How are the financial arrangements to be established? Will the participating physicians be at risk?**

The physicians will be at risk for their portion of the activity. The maximum of such risk is 10% of the physician's charges. This possibility of a deficit will be offset by previous fund surpluses or will be included in premium calculations for the subsequent year so that 100% of physician's fees would normally be paid. The risk for hospital and other services will be borne by the HMO. Re-insurance will be provided to prevent any large drain on the physician fund. This fund will be fed by capitation payments and it will be used to pay the physicians on a fee-for-service basis. The capitation is set to produce a small surplus, thus the fund will pay 100% of physicians' fees if utilization is as anticipated. A maximum draw from the fund on any one case will be \$10,000 each year as protection against a catastrophe. Physicians will be paid via one check within 2 weeks after the end of each month.

The claim handling will be in-house via a mini-computer. This will allow for maximum efficiency and flexibility in providing peer review data and management reports. We feel this is critical since a service bureau or other vendor may not be able to provide the immediate response needed, plus they may be unable to adjust their programs economically to meet local needs. Investigation showed in-house to be the most economical approach. Correct and prompt management/financial information is critical to the success of an IPA-type of HMO. Financial difficulty can occur without careful underwriting or adequate information on outstanding provider bills (claim lag), just as easily as if the premiums were inadequate or utilization excessive.



# Cars don't fly. Why should they be aerodynamically designed?



Boxes on wheels are inefficient.

With a thoroughly thought-out aerodynamic shape, the experts are beginning to agree, a car can conserve fuel and achieve optimal road handling.

Exactly who discovered this principle of design, and when, is open to question.

Saabs, in any case, have

never been anything but aerodynamic, owing, perhaps, to the fact that the very first Saabs were designed by aircraft engineers—engineers working unencumbered by preconceived notions of how cars should be styled.

In these times, no other measurement of a car's shape truly ought to matter.

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ever built.**

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## MEDICAL MEETINGS

*The following postgraduate courses and conferences will occur at U. of I. College of Medicine in Iowa City*

- |            |  |
|------------|--|
| Mar. 3-4   | American College of Physicians/Medical Knowledge Self Assessment Program |
| Mar. 5     | Ophthalmology Clinical Conference  |
| Mar. 12    | Diet Therapy U.S.A.  |
| Mar. 14    | Critical Decision in Trauma, Ottumwa, Iowa                               |
| Mar. 24-28 | Intensive Course in Pediatric Nutrition                                  |
| Mar. 27    | Emergency Procedures for Physicians                                      |
| Mar. 27-28 | Conference on Perinatal Medicine, Des Moines                             |
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|------------|--|
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**PRECAUTIONS:** Thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients. Recovery will follow withdrawal of the medication. Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

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Product Information as of September, 1977  
U.S. Patent 2,985,558

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# Metrizamide Myelography — A Report of 100 Cases

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THOMAS E. MURPHY, M.D.

Des Moines, Iowa

THIS IS A REPORT of the first 100 cases of aqueous medium (metrizamide) myelograms performed in a 700-bed general community hospital. Metrizamide (Amipaque®) was released by the Food and Drug Administration late in 1978. This medium was developed in Norway and has been used in Europe for many years. It is a water soluble medium excreted by the kidneys and hence does not have to be removed. Prior to that time, Pantopaque, an oil based medium which has to be aspirated after the examination, was the only opaque medium used in this country for myelography. So, until recently, American radiologists have had no experience with metrizamide. Hence the pertinence of this report.

The authors are in private practice in Des Moines and are associated with the Department of Radiology at the Iowa Methodist Medical Center.

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*A newly released water soluble medium has become available for use in the performance of myelograms. The authors of this report are pleased by its accuracy, ease of injection and acceptable adverse reaction rate.*

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This paper will report the results, reactions and accuracy of the myelographic procedures. It is also our purpose to show that in selected cases diagnostic cervical myelograms can be performed with a lumbar injection of the medium. The patients are referred for myelograms mainly by orthopedists and neurosurgeons.

The literature on metrizamide is extensive and its review is not meant to be part of this report. Referral is made to the annotated bibliography published by Winthrop Laboratories which has an excellent abstract of all the pertinent literature.

## TECHNIQUE/METHOD

The pre- and post medication orders for metrizamide myelography are as follows:

### *Pre-Myelogram Orders*

1. N. P. O.
2. Valium® 10 mgm IM on call to x-ray.

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AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF FEBRUARY 1980.

1. 24 hours bed rest, first 6 hours supine position with head elevated 45 degrees. Then lower to flat position for the next 18 hours (may be on side, back or stomach).

2. Force fluids with full liquid diet.

3. Phenergan® 25 mgm IM every 4 hours PRN for nausea.

4. Codeine 60 mgm IM every 4 hours PRN for severe headache.

5. Then resume pre-myelogram orders.

Before beginning myelograms, patients are quizzed by the examiner for any prior history of central nervous system disease or past history of seizures. Patients are also asked about any concurrent medications to be sure they are not on an epileptogenic drug (e.g., phenothiazines) which might induce seizures when used concomitantly with metrizamide.

We have had good success using the oblique needle approach. A 22 gauge disposable, short-bevel, 3.5 inch long spinal needle is used. The patient is placed on the x-ray table in a prone position. The level of the lumbar puncture is marked on the skin using a felt-tipped marking pen under fluoroscopic guidance. The oblique approach is accomplished by selecting a point fluoroscopically which is slightly cephalad and lateral to the spinous process of L-2 or L-3. The position of the needle is checked under the fluoroscope. The needle is angled medially as it passes through the soft tissues with the result that the tip is midline when it punctures the dura and arachnoid membranes. When the needle is felt to puncture the dura, it is advanced 1 to 2 mm more and the hub is slowly rotated. The stylet is withdrawn and the head of the table is elevated approximately 20 degrees. If the cerebral spinal fluid does not flow freely the quantity of fluid desired for laboratory analysis is slowly aspirated using a sterile syringe. We routinely obtain a cell count and protein determination on all myelogram patients. The metrizamide which has been mixed 5 to 10 minutes prior to this is slowly injected using sterile connecting tubing to minimize the radiation exposure to the examiner. The head of the table remains elevated 20 degrees thus pooling the metrizamide in the cul-de-sac and allowing immediate identification of a subdural injection. The subarachnoid metrizamide will move promptly downward to the cul-de-sac. After

the subarachnoid injection is completed, the needle is removed and the table level is manipulated under fluoroscopic control so the opaque column is recorded at each interspace in the PA and both oblique positions on spot radiographs. All radiographs are made with an average of 70 Kvp to maximize contrast on the examination. Overhead tube, grid front, crosstable radiographs are obtained in both 45 degree oblique positions so the filled axillary sleeves of each nerve root are recorded in the dependent position. Finally, a straight crosstable lateral grid front film is made.

#### DATA

An average of 68 myelograms are performed monthly in this hospital by the radiologists. In this series myelograms were performed on 100 patients using metrizamide as the contrast agent. Included were 52 males and 47 females with an age range of 20 to 81 years. There were 88 lumbar and 16 cervical myelograms. Four patients had both cervical and lumbar studies. Twenty-four of the 100 cases had previous oil based myelography (Pantopaque). There were 9 referring physicians with 60% of the cases referred by one neurosurgical consultant.

Forty-three of the examinations were normal, 57 were abnormal and 34 patients underwent surgery. Of the 34 surgical cases, 33 had positive myelograms and one had a normal myelogram. Of the 33 positive myelograms, 23 showed excellent correlation with surgery and 6 showed good correlation, while 3 were fair and one was poor (Table I).

#### ADVERSE REACTIONS

The most common adverse reactions of aqueous myelography are headaches, nausea, vomiting and seizures. Table II shows that 46% of these cases had one or more of these complications.

Both 20 gauge and 22 gauge spinal needles were used for the examinations and the post myelogram complications are correlated with needle size in Table III.

It is of interest that in the 16 cervical studies where the contrast is positioned close to the brainstem there were no post myelogram headaches but 7 cases of nausea and/or vomiting.

There was a higher complication rate with the 20 gauge needle although this is probably not statistically significant.



## ELECTROMYOGRAPHY

Fifty-nine of the patients underwent electromyographic studies in addition to myelography, and 19 cases had myelography, electromyography and surgery. Table IV shows that 16 of the above 19 (84%) showed excellent or good myelographic correlation to surgery, while 9 of the 19 (47%) showed excellent or good electromyographic correlation to surgery. Seven of the 19 cases (37%) showed both excellent or good myelographic and electromyographic correlation with surgery.

Of the 40 cases that had both electromyographic and myelographic studies but did not go to surgery, 20 cases (50%) showed both of these studies to be negative, and 5 (12.5%) had positive myelograms and electromyograms.

## DISCUSSION

Because of the excellent quality of the image and the ability to opacify nerve root sleeves, metrizamide has been proposed as an improved contrast agent for myelography. In our study there was general agreement by both radiologists and referring physicians that this is true, and that with experience, minor findings, such as nerve root blockage, blunting, or elevation, become available as dependable signs of disc protrusion — signs which are not always as well appreciated with the oil based medium (Pantopaque). Our subsequent experience has shown cases of epidural abscess, epidural hematoma, and intradural meningioma in their entire extent. These would probably have shown only as blocks with Pantopaque.

Twenty-nine of the 34 cases (85.3%) that went to surgery had excellent or good correlation of the myelographic and surgical findings. This is consistent with most recently published reports. Three cases showed fair correlation (disc disease suggested but not diagnostic). In these further studies, such as electromyogram and clinical history, were needed to make a surgical decision. One case had a poor correlation (disc suggested at wrong level) and one case showed a normal myelogram but went to surgery where a "slightly protruded disc" was removed. This shows that the myelogram alone was diagnostic (excellent or good correlation) in 85% of the cases. Of the 66 cases that have not had surgery, 24 had positive myelograms. We cannot determine how many of these cases represent false positive studies.

TABLE I  
CORRELATION OF MYELOGRAM AND SURGERY

Excellent	23
Good	6
Fair	3
Poor	1

TABLE II  
POST MYELOGRAM SYMPTOMS 100 CASES

Headache	12
Vomiting	12
Nausea	7
Headache & Nausea	5
Headache, Nausea and Vomiting	10
Seizures	0

TABLE III  
NEEDLE SIZE AND COMPLICATION RATE


Needle Size	Na. of Cases	Na. of Cases With Complications	Percent of Complications
20 gauge	56	28	50
22 gauge	44	18	41

TABLE IV  
CORRELATION OF MYELOGRAM, ELECTROMYOGRAM, AND SURGERY — 19 CASES

EMG	Myelogram	Na. of Cases
Excellent	Excellent	6
Poor	Excellent	5
Poor	Good	4
Good	Good	1
Excellent	Poor	1
Excellent	Fair	1
Poor	Poor	1

Headache, nausea and vomiting occurred in 46% of the cases. No symptoms were so severe as to preclude discharge or surgery within 48 hours after the myelogram. It has been reported that 33% of the patients with lumbar puncture alone have headache as a residual. Of the 16 patients who had cervical studies, 7 (43.7%) had nausea and/or vomiting which was no greater complication rate than the lumbar studies.

No seizures were encountered in this group



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of patients. All patients are screened for seizure history, use of phenothiazines, and allergies. Premedication consists of diazepam alone. It is noted that one patient, subsequent to this series, had 3 seizures 6, 8 and 9 hours following the myelogram. This patient had a syncopal episode during the procedure and only retrospectively gave a history of seizures in childhood. A CT brain scan showed no intracranial abnormality and the patient had no further complications.

The 19 cases who had aqueous myelography, electromyography and surgery were too small in number for statistical analysis. However, these results seem to confirm our impression of the accuracy of the aqueous myelography (84%).

One direct lateral cervical injection was performed in a patient with a metastatic tumor

block at the fourth cervical segment and in whom lumbar injection was unsuccessful.

Proper selection of the patient for cervical metrizamide myelograms by lumbar puncture is important. The ideal patient for this procedure is calm and not too fat or kyphotic and must be cooperative. Very slow lowering of the head of the table is recommended and it is remarkable that the medium flows cephalad with the head lowered only a few degrees. The cervical area is watched closely on a fluoroscopic screen for pooling of the medium as it is difficult to see it pass around the thoracic cord.

We have been impressed with the ease of metrizamide myelography in patients who have had previous surgery or myelography. Removal of Pantopaque on these patients can often be a prolonged and difficult task, even with optimal needle placement.

An important consideration in using metrizamide at the present time is its high cost. Because it is sometimes difficult to justify metrizamide for routine use in these days of cost containment, we have not abandoned Pantopaque as a myelographic medium. We individualize each case but use metrizamide in the majority of cases.

#### CONCLUSION

This study of our first 100 cases of aqueous myelography (metrizamide) has encouraged us in its use because of its accuracy, ease of injection, and acceptable complication rate. Experience has eliminated many of the early problems of patient selection, needle placement and film technique. The use of the lumbar injection for cervical studies in properly selected cases has been very satisfactory. The high cost of metrizamide is a factor in limiting its use.

#### ADDENDUM

We have done 400 additional metrizamide myelograms (as of December 1979) with continued good experience supporting the preceding conclusions. Special thanks is given to James G. Swift, R.T., for excellent technical assistance.



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# DRUG THERAPY REVIEW

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## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

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**REYNOLD SPECTOR, M.D., Editor**

*Editor's Note — In recent years knowledge about rational drug therapy has expanded significantly. This series of articles will provide the practicing physician with concise, topical reviews of drug therapy.*

### DOSING REGIMENS IN SERIOUSLY ILL PATIENTS

Seriously ill patients, particularly those with renal insufficiency, hepatic dysfunction, or congestive heart failure, frequently require alterations in dosing regimens because of the inability of the patient's kidneys or liver to metabolize or excrete certain drugs or their active metabolites normally. Similarly, in low (cardiac) output states such as congestive heart failure and shock, the underperfused kidneys and liver are often unable to clear many drugs normally.

This article features guidelines for the use of 5 common drugs in seriously ill patients. These drugs were selected because of their frequent usage, the marked potential for serious toxicity with improper use, and the availability of published data suggesting rational dosing regi-

mens. These guidelines are not absolute but are meant to underline the caution which should be employed when using these drugs in seriously ill patients. Monitoring for drug effect and toxicity may be as important as the selection of the initial dosing regimen. The history of drug ingestion as well as serum levels on admission are frequently very helpful in determining dosing regimens.

#### THEOPHYLLINE

Theophylline is cleared principally by hepatic metabolism which is characterized by large interpatient variability. Mean rates of elimination vary widely with age and disease state. Bronchodilator effect increases progressively from 5 to 20 mcg/ml with 10 to 20 mcg/ml generally accepted as the therapeutic range. The risk of toxicity increases progressively at serum levels over 20 mcg per ml.<sup>1-4</sup> A safe dosage recommendation begins with a loading dose of 1 mg per kg of theophylline for each 2 mcg per ml desired increase in serum concentration. Thus, 5 mg per kg will result in an approximate 10 mcg per ml increase in the serum concentration.<sup>1-4</sup> (Note: 1 mg of aminophylline contains 0.85 mg of theophylline.) Since the history of the quantity of theophylline ingested is frequently an unreliable way to estimate the serum concentration at the time of admission, it may be wise to await an initial serum theophylline level before administering a loading dose.

A 6 mg per kg intravenous loading dose is commonly used in all patients who have not recently received theophylline. The loading dose should be administered at a constant rate over a period of more than ten minutes to minimize the possibility of cardiovascular collapse and cardiac arrhythmias. The loading dose should be followed by a constant intravenous maintenance infusion.<sup>1-4</sup> The maintenance doses of theophylline should be approximately:

- 0.9 mg per kg per hour in children 1 to 9 years of age,
- 0.7 mg per kg per hour in children over 9 and otherwise healthy adults who smoke,
- 0.4 mg per kg per hour in otherwise healthy nonsmoking adults,
- 0.3 mg per kg per hour (or less) in patients with heart failure or liver dysfunction (e.g., cirrhosis), and

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This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

0.3 mg per kg per hour in children under 1 year.<sup>1-4</sup>

A frequently used method to monitor the dosing regimen of theophylline is to obtain theophylline levels 1, 6, 12, and 24 hours after the start of the maintenance infusion and then every 24 hours thereafter while the patient remains on the continuous infusion. Therapeutic serum levels of theophylline are usually 5 to 20 mcg per ml. Clinical signs of efficacy (e.g., reversal of bronchospasm) and toxicity (e.g., arrhythmias) must be closely monitored.

Significant trends in serum levels (changes of 3 mcg per ml or more) can often be identified as early as 6 hours after the start of the infusion. Subsequent adjustments in the rate of the infusion should consider the potential for disproportionately large changes in serum concentrations.<sup>2</sup>

#### PROCAINAMIDE

Procainamide and its principal, pharmacologically active hepatic metabolite, N-Acetylprocainamide (NAPA), are excreted by the kidneys. In all adult patients, a loading dose of approximately 10 to 15 mg per kg may be used. If the drug is given intravenously, extreme caution should be employed and rates of administration exceeding 100 mg every 5 minutes should not be used if possible. The frequently recommended normal maintenance dose in adults is approximately 5 to 6 mg per kg intramuscularly or orally every 4 hours or 2 to 6 mg per minute as a continuous intravenous infusion.

In patients with renal failure, the maintenance dose of procainamide must be reduced.<sup>5, 6</sup> The dosage reduction should be roughly proportional to the decline in renal function. Patients with moderate renal failure (creatinine clearance of 10 to 50 ml per minute) will usually require maintenance doses of 5 to 6 mg per kg intramuscularly every 6 to 12 hours.<sup>14</sup> Patients with severe renal failure (creatinine clearance less than 10 ml per minute) will usually require maintenance doses of 5 to 6 mg per kg intramuscularly every 12 to 24 hours.<sup>14</sup>

One suggested method to monitor intramuscular or oral procainamide dosing regimens is to obtain serum levels of procainamide and NAPA 1 hour prior to and 1 hour after the dose. These levels may be obtained after the

second dose and at least every other day thereafter while the patient's clinical condition is unstable. Rhythm strips may be obtained along with the levels to monitor the antiarrhythmic effect of the drug. Therapeutic serum levels of procainamide and NAPA are usually 4 to 10 mcg per ml and 2 to 30 mcg per ml, respectively.

In patients with renal failure, accumulation of NAPA will be noted. NAPA levels of 10 to 20 mcg per ml have been associated with an antiarrhythmic effect in a majority of patients with ventricular premature beats when NAPA has been used as the sole drug.<sup>7, 8</sup> No increase in antiarrhythmic effect has been noted in patients with NAPA levels above 30 mcg per ml. NAPA levels as high as 40 mcg per ml have been reported without untoward hypotensive or myocardial depressant effects as judged by electrocardiography and systolic time intervals.<sup>8</sup>

#### LIDOCAINE

Lidocaine is principally metabolized by the liver in all patients. In adults, an intravenous (bolus) loading dose of 50 to 100 mg should be employed when lidocaine is used as an antiarrhythmic drug. The maintenance intravenous dose for normal adult patients is usually 2 to 4 mg per minute as a constant infusion. This maintenance dose should be reduced to 1 to 2 mg per minute in adult patients with congestive heart failure and/or liver disease.<sup>9, 10</sup> Lidocaine levels may be useful in patients with congestive heart failure and/or liver disease, particularly in those with signs of possible toxicity (confusion, hallucinations, seizures, coma, respiratory depression) or inadequate therapeutic effect. The usual therapeutic range is 2 to 5 mcg per ml and serum levels above 8 mcg per ml generally require dose reduction or the need for an alternative antiarrhythmic agent.

Lidocaine infusions lasting more than 24 hours are associated with an increase in the half-life of the drug from 100 minutes (reported for intravenous bolus injections or intravenous infusions less than 12 hours) to about 200 minutes.<sup>11</sup> Maintaining the same infusion rate for longer than 24 hours should be performed with caution.

Recently, it has become clear that lidocaine is principally metabolized by the liver in all patients to a hydroxylated derivative and 2



deethylated derivatives, monoethylglycylxylidide (MEGX) and glycylxylidide (GX).<sup>12</sup> These metabolites have some antiarrhythmic potency (e.g., MEGX is about equal to lidocaine itself) and toxicity roughly comparable to lidocaine itself.<sup>12</sup> In some patients, the plasma levels of MEGX and GX are appreciable.<sup>12</sup>

Levels of lidocaine plus GX plus MEGX that exceed 7 mcg per ml may be associated with toxicity.<sup>12</sup>

## DIGOXIN

Digoxin is principally excreted unchanged by the kidneys. For adult patients, the total loading dose usually ranges from 0.75 to 1.5 mg orally or intravenously over a 24 hour period.<sup>13</sup> The oral maintenance dose for normal, adult patients usually ranges from 0.25 to 0.5 mg per day.<sup>13</sup> A 25 to 50 per cent reduction in this maintenance dose should be made in elderly patients and patients with moderate renal failure (creatinine clearance 10 to 50 ml per minute).<sup>13, 14</sup> Patients with severe renal failure (creatinine clearance less than 10 ml per minute) should receive about 35 per cent of the normal maintenance dose.<sup>13, 14</sup>

The loading and maintenance doses for children vary with age. Relatively higher doses per kilogram are required for therapeutic effects than in adults.<sup>15</sup> Currently recommended loading doses in children are as follows:

Route	Premature	
Oral	0.035 mg per kg	
IV	65% of above	
	Less than 2 Years	Greater than 2 Years
	0.05 to 0.07 mg per kg	0.03 to 0.05 mg per kg
	65% of above	65% of above

It is common when digitalizing children to administer one-half of the loading dose initially followed by one-fourth of the loading dose 6 and 12 hours later. A full EKG should be obtained prior to administration of the loading dose and electrocardiographic assessment for signs of toxicity prior to each of the later 2 doses is useful. The pediatric maintenance dose is 20-30% of the loading dose per 24 hours.

Variations in the recommended dosing regimens may be required depending on the clinical response to the drug. For example, if

the patient is being treated for atrial fibrillation, a higher maintenance dose may be needed to attain a ventricular rate of 80 beats per minute or less.

A serum digoxin level may be useful in avoiding excessive drug accumulation in infants, elderly patients, or those with renal failure or low output states. The serum (for a digoxin level) should be drawn at least 3 hours after the last dose to assure an interpretable measurement. Therapeutic levels of digoxin generally fall between 0.8 and 2.0 nanograms per ml. A clearly defined therapeutic goal may require higher serum levels (as discussed above) if no symptoms or signs of toxicity are present. Infants and children often require and tolerate higher serum concentrations than do adults. Toxicity is uncommon in infants and children with serum concentrations of less than 4 ng per ml and 3 ng per ml, respectively.

## PENICILLIN G

The therapeutic index of penicillin G is high in normal individuals. However, large doses given to uremic patients may result in serious neurotoxicity.<sup>17</sup> Penicillin G is cleared principally by the kidneys. "High dose" penicillin G, defined as that dose required to achieve a mean plasma concentration of approximately 20 mcg per ml or greater, may be required in certain types of bacterial infections including endocarditis and meningitis.<sup>18</sup>

"High dose" penicillin G therapy (in adults) generally requires 20 million units (or more) per day by intermittent or constant intravenous infusion in patients with normal renal function.<sup>18</sup> After a loading dose, patients with severe or moderate renal failure should receive about 25 to 50 per cent of the usual daily dose to avoid significant drug accumulation and possible neurotoxicity.<sup>18</sup> After a loading dose, the adult patient with very severe renal failure and liver disease may require as little as 500,000 units intravenously every 8 hours to maintain "high dose" serum levels of the drug.<sup>18</sup> When a clear drug effect is not observed clinically, assays of serum penicillin G (e.g., direct serum measurements and/or bactericidal titers) may be required. Finally, it should be noted that 20,000,000 units of penicillin G contain 34 milliequivalents of potassium. Sodium penicillin G may be preferable in patients with renal fail-

(Please turn to page 72)

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## THE USE AND ABUSE OF DRUGS

*This statement has been prepared by Harold Moessner, M.D., Des Moines, for the Iowa Medical Society Committee on Alcoholism and Drug Abuse. It is provided to IMS members as a reminder of the need to watch patients closely for any indication of*

*drug misuse. Educational programs on the use and abuse of prescription drugs are encouraged by the committee for county medical society and/or hospital staff meetings. The committee will be glad to assist with any such meetings.*

The many advances in pharmacology since WW II have provided major health benefits to patients today. Unfortunately, these advances have produced a belief that chemicals can solve most of our problems in this stressful and hectic time. The physician usually knows the many negative effects and harmful interactions involved in the poly-pharmacy of the patients with critical illnesses, but some patients frequently ignore these warnings of serious side effects because of their intense desire to be relieved of pain, anxiety or illness.

To complicate matters further for the physician, there are significant numbers of patients who will misuse or abuse such prescribed drugs. The drugs most frequently abused are the hypnotics, minor tranquilizers, narcotics, sedatives and stimulants. In addition, there are many patients who misuse other licit (alcohol, food, tobacco, etc.) or illicit (heroin, marijuana, LSD, speed, etc.) drugs. Therefore, the physician is faced with the problem of identifying the drug abusing patient and trying to achieve some form of treatment or referral.

**Identification** — Identifying the patient who misuses drugs requires a certain amount of intuition and guesswork. The physician's suspicion should be aroused by requests for frequent refills, excuses about losing prescriptions, demands for more powerful drugs, and frequently missed office appointments. Patients with certain symptom complexes such as nervousness, insomnia, chronic headache, backache, abdominal pain, etc. are more frequently associated with drug abuse. Careful recording of all refills, consulting the pharmacist about other drug use and observing early signs of intoxication or withdrawal will also help to identify the patient in trouble.

**Treatment** — Once the patient has been identified, direct confrontation of the patient is imperative. Whenever possible, this confrontation should occur in a small group setting, including such persons as the patient's family, friends and other health professionals. The

physician and the patient will need to recognize drug abuse as a treatable medical problem which is similar to the long-term management of a diabetic patient. Behavioral changes such as avoiding certain drugs, substituting safe non-addicting chemicals and many other major alterations in the patient's lifestyle will be necessary for successful rehabilitation. Over a number of years, there will be rewards and relapses, but ongoing support by the physician, the family and a variety of community and social agencies will help the patient achieve a life free from dangerous drugs.

**Prevention** — Of course the best solution to the drug misuse problem is prevention. The following are some suggestions for the practicing physician.

- 1) Be aware of the potential for drug abuse when prescribing certain drugs. Hypnotics, minor tranquilizers, narcotics, sedatives and stimulants are extremely useful in acute episodes or terminal illness, but dangerous in patients with chronic complaints.

- 2) When initiating these types of medications, decide what the length of therapy will be and don't let the manipulative patient change your decision.

- 3) Question your patients about their use of over-the-counter (OTC) medications. Also raise questions over the suspected use of illicit drugs.

- 4) Don't use "as needed" in the directions to the patient and "p.r.n." for refills.

- 5) Maintain meticulous records of how much medication you prescribed for how long and for what reason. Monitor refill requests.

- 6) Alert the pharmacists as to your concern over a patient's potential for misusing drugs.

- 7) Be wary of the "doctor shopper" and the flattering, over-solicitous patient. You may be the best physician in the world, but most patients won't tell you so.

- 8) Ask for assistance in dealing with these patients. A.A., substance abuse counselors, family members, nurses, pharmacists, etc., can be extremely valuable.





## COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### TEENAGE RESPONSIBILITY

Americans spend more annually to subsidize teenage pregnancies than the annual budgets of New Zealand and Portugal, according to an article in a recent issue of *PRIVATE PRACTICE*. About 8.3 billion in tax dollars is spent per year for welfare and other related expenses connected with teens who become pregnant. Illegitimate births among teenage mothers have more than doubled since 1960. Only 10% of the infants are being offered for adoption (compared to 90% 10 years ago), resulting in even greater expansion of welfare rolls.

These statistics prompt questions about priorities in a society which condones and subsidizes pregnancies out of wedlock. Has morality decayed to such a degree, or do we place different values on freedom of actions without responsibility? What segment of society is responsible for such a state of affairs? Has the guidance of our youth declined due to a lack of basic responsibility to one's self and family and to society as a whole? Some would say we are too permissive under the guise of freedom. This may harken back 30-35 years when there was a strong advocacy by child psychologists that children were to be free to express themselves to their own satisfaction and pleasure. Parents were admonished that to frustrate the

free-spirited egos of the child might render him or her incapable of facing the realities of life. Is personal pleasure so important that others must suffer or carry the financial burden to support those who act in an irresponsible manner?

It has been suggested the strength of the family unit has been weakened by the increasing need for both parents to be employed. Children cared for by surrogate parents in day-care centers and nursery schools are missing the close family-maternal ties which inculcate responsibility to family and self.

Some would argue that the law allows excessive freedom to those who flaunt it. Lawbreakers have "rights," and too frequently the victim loses his rights in his effort to protect himself. This is not to say that bearing a child out of wedlock is a criminal act, but it certainly is not a moral one. Yet our welfare laws condone and subsidize the situation, without apparent penalty to the parties concerned.

We must look at our entire social framework in a more positive fashion. Blame cannot be placed on any single facet of our society. There are many strengths in our moral fiber; there is only a small minority that lives aloof from the accepted pattern. We must have an increasing awareness of the nature of youth, what their needs are, and how we should guide them. We must inspire them to help each other in gaining self esteem and a pride in the group rather than self. As physicians, we who deal with children and youth have an important responsibility to assist parents in guiding their offspring. As citizens, we must strive for higher moral standards and social mores. The year 1979 was the International Year of the Child. As we move through a new year we need not abdicate that theme. Let's help our children accept the responsibilities that will bring them to a high level in our social structure; for, as we often say, the children of today are tomorrow's leaders. Should we fail them now, they shall fail in the future. — M.E.A.

### 1980 IMS SCIENTIFIC MEETING

Iowa City will be the site of the 1980 Scientific Session of the Iowa Medical Society. It will be April 16, 17, and 18. The program is all but complete and it is not too early for member

physicians to mark the dates on their calendars.

CME credit will be awarded to attendees. The *JOURNAL* will publish the complete program in March. Plan to attend. — M.E.A.

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# STATE DEPARTMENT/ PUBLIC HEALTH

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## SCREENING PROGRAM FOR GENETIC/METABOLIC DISORDERS

It is estimated about 60,000 of Iowa's 3 million inhabitants are afflicted with birth defects and genetic conditions. Each year 1,800 or more of 44,000 newborn Iowans are added to this number. A significant number of these disorders can be diagnosed in the neonatal period.

The Iowa program of neonatal screening for genetic and metabolic disorders has as its objective the early identification and treatment of individuals affected with these conditions. The ultimate goal is to eliminate adverse health consequences such as mental retardation, morbidity, and mortality.

Genetic screening should be carried out under controlled conditions. It may be considered when the following criteria are met: a) when there is evidence of substantial public benefit and acceptance, including acceptance by the medical community; b) when the feasibility of genetic screening has been investigated and shown to be cost effective; c) when appropriate public education can be carried out; d) when satisfactory test methods and laboratory facilities are available; e) when resources exist to deal with counseling, follow-up, and other consequences of testing; and f) when means are available to evaluate the effectiveness and success of each step in the process. These criteria were carefully considered in the planning phase of this program.

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This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

The mandate for prevention and treatment of birth defects is contained in Chapter 136A of the Iowa Code. The responsibility for the development and administration of a state program of screening for genetic and metabolic disorders is vested in the Birth Defects Institute (BDI) of the Iowa State Department of Health. This body is authorized to develop, supervise and implement a program of screening for genetic and metabolic disorders within Iowa.

### ADVISORY COMMITTEE

The Advisory Committee of the Birth Defects Institute provides appropriate public, scientific, and professional advice to the BDI, including technical input on the medical and scientific feasibility and desirability of screening programs, which comes from its Subcommittee on Genetic and Metabolic Screening. This latter subcommittee includes, but is not limited to, members of the Advisory Committee and appropriate representatives from scientific and professional organizations concerned with metabolic and genetic screening. Included are specialists in medical genetics, pediatrics, obstetrics, pathology, family practice, public health, along with BDI representatives. Advice is also sought from professional organizations and societies. The concept of newborn screening in the state has received the endorsement of the Iowa Medical Society, the Iowa Chapter of the American Academy of Pediatrics, and the Iowa Nurses' Association.

There is ample evidence that substantial public benefit results from detecting infants with these disorders. The average current cost of maintaining one retarded individual in a state hospital school (Glenwood or Woodward) is approximately \$24,500 annually. When loss of productivity is considered it has been estimated the lifetime cost to society of one retarded individual is roughly \$500,000. A program of newborn screening for metabolic disorders could curtail these costs, to say nothing about the prevention of needless misery to affected individuals and families.

In the initial phase of this program, activity will include, but not necessarily be limited to, screening for hypothyroidism, infant phenylketonuria, galactosemia, and branched chain ketoacidemia (maple syrup urine disease). The estimated incidence of these disorders in Iowa is:

*(Please turn to page 69)*



*Infant Phenylketonuria* — Occurs in about 1 of every 10,000 newborns.

*Hypothyroidism* — Occurs in about 1 of every 5,000 newborns.

*Galactosemia* — Occurs in about 1 of every 75,000 newborns.

*Branched Chain Ketoacidemia* — Occurs in about 1 of every 210,000 newborns.

Even though the incidence of galactosemia and branched chain ketoacidemia may be rare in Iowa, staff of the Division of Medical Genetics, University Hospitals, has identified two new cases of galactosemia and one new case of branched chain ketoacidemia in 1979. Thus, utilizing these estimates of incidence, this program could have led to the detection of 16 affected children in Iowa. The potential savings are obvious.

#### DEVELOPING STANDARDS

The Subcommittee on Genetic and Metabolic Screening is now developing standards to cover the conduct of these screening activities of the BDI. Upon completion, the standards will be used with appropriate physicians throughout the state. The BDI will then apply the standards to the Iowa screening program. The standards will reflect the high quality of medical care provided by practitioners and health related agencies within Iowa and hopefully will become accessible to all citizens. Although participation in this program will be voluntary, it is hoped eventually all Iowa newborns will be screened.

The University Hygienic Laboratory has been selected to serve as the state screening laboratory. The laboratory is located at: University Hygienic Laboratory, Des Moines Branch, H. A. Wallace Building, East 9th and Grand Avenue, Des Moines, Iowa 50319.

The state screening laboratory will provide standardized instructions, specimen forms, and other necessary materials to those who collect the specimens. This laboratory will accept specimens for testing from physicians, hospitals, clinics, health personnel, and other laboratories wishing to use these services. The state screening laboratory will use only those testing methods approved by the screening authority and will maintain a quality control program, including external audit. The test methods to be used have been effective in other newborn screening programs, i.e., Maryland and Massachusetts.

A survey is being conducted by the University Hygienic Laboratory to determine what laboratories in the state wish to participate in the screening program. At the present time, the University Hygienic Laboratory is purchasing necessary equipment and establishing protocols so it can begin accepting and processing specimens.

The reporting system of the genetic and metabolic screening program will allow for the appropriate dissemination of that information which is collected. The goal of this reporting system will be the prompt notification of primary care physicians and their patients as to any suspected metabolic or genetic disorders detected through the screening program. Also involved will be the prompt institution of further confirmatory diagnostic testing and treatment. Furthermore, the reporting system will be developed to facilitate the collection of needed statistical data.

There will be an intensive educational effort to inform the people of Iowa of the opportunities available for genetic and metabolic screening. In addition to health professionals and the mass media, schools, colleges, parent organizations, and other available interest groups will be used in this educational effort. An informational pamphlet will be developed and made available to physicians, clinics, and hospitals. The informational pamphlet will include a concise description of the disorders; their genetic implications; the nature of the treatment and the consequences of the disorders treated and untreated; and the reporting mechanism.

The BDI, in collaboration with the Division of Medical Genetics, University Hospitals, has developed a Regional Genetic Consultation Service (RGCS) which is available throughout the state to provide Iowans with information about genetic disorders and birth defects. In fiscal 1978, the RGCS provided 222 educational presentations throughout the state.

The RGCS now operates genetic counseling clinics in 15 Iowa cities. A trained nurse genetic consultant is in each of five regions to schedule genetic clinic appointments, do follow-up counseling, and assist in educational programs. This service is available to the tertiary diagnostic and management facility and could easily be integrated into a longitudinal program for follow-up of persons with the dis-

*(Please turn to page 72)*



## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

### WINTER THOUGHTS ABOUT SUMER

In a recent column I likened the scene at a busy airport to an aquatic museum. In such a museum, however, small placards usually instruct the viewer. If such a sign provides me nothing but the name of the creature, I find myself terribly disappointed and wonder at the museum director's stinginess with his information, since I enjoy being instructed along with the esthetic experience.

Other museums devote their displays to the ways and products of mankind. Although ours is the species we know best, yet we have the greatest need and desire to know more. In such a museum — for example, the fine antiquities museum at the University of Pennsylvania — one finds inscribed on a cylinder in ancient Sumerian hieroglyphics (about 1800 B.C.) how schoolboys, coming late to class, fear the teacher will cane them, or cane them for misbehavior before sending them with written work home to father.

How ancient, then, our human practice of associating learning with negative stimuli! It accounts for the Roman observation that the greatest impediment to those who would learn is the tyranny of those who teach. The implication there about human nature and its great desire to learn is recast in modern terms by Dr. Lewis Thomas in his charming collection of biologically-oriented essays (*The Medusa and*

*the Snail*, The Viking Press, New York, 1979, page 71): "Indeed, if there is any single attribute of human beings, apart from language, which distinguishes them from all other creatures on earth, it is their insatiable, uncontrollable drive to learn things and then to exchange the information with others of the species. Learning is what we do, when you think about it." Quite a different view of the issue was expressed by Pliny the Elder: "Man is the only one that knows nothing, that can learn nothing without being taught."

And those Sumerians saw the need for coping with the problems of communication in language — why else would one of their wise men, a sort of Samuel Johnson of 2500 B.C., have produced a pronouncing dictionary to make possible the translation of Sumerian into Akkadian? A wise man, yes, but probably not wise enough to grasp how little the world today would care or need to know about translating Sumerian into, or from, Akkadian. Consider how few scholars, let alone ordinary folk, in the corresponding time span ahead (the year 6458) will care about the language whose words you now read. I wonder if they will know human nature well enough, as the Sumerians did, to write, "A junior scribe is over-much concerned with food for his stomach — he does not pay attention to his scribeship." Some might retool this ancient sentence into "An assistant professor is over-much concerned with his grants and research — he does not pay attention to his teaching." As with most generalizations about human social behavior, that one partakes of both truth and falsity when applied descriptively to particular instances.

Those Sumerians were wise in other ways, too. They had a zero and used it in their sexagesimal counting system (6, 60, 360, 3600) whose vestiges we use yet in counting seconds, hours, degrees of a circle and all their mathematical and navigational derivatives. Even the metrification process is content to accept those old-fashioned "six-linked" measures, the second and the degree, as the basic units from which to expand or contract by powers of ten. Since the Sumerians obviously had a cipher in their counting system, we are wrong in our habit of crediting medieval Arab scholars with the invention of the zero. They introduced it to Western culture from their

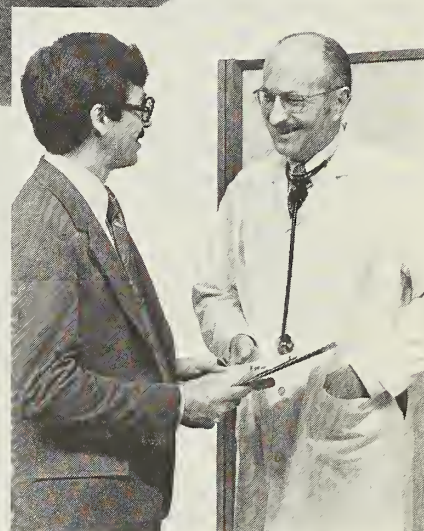
(Please turn to page 72)

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.





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## STATE DEPARTMENT/ PUBLIC HEALTH

(Continued from page 69)

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eases being screened. In addition, the nurse genetic consultants are available to assist attending physicians in follow-up on patients with presumptive positive test results.

### SUMMARY

In summary, the Iowa program of screening for genetic and metabolic disorders is under development. The specimens will be collected in the hospital nursery, physician's office, or at home and sent to a participating screening laboratory. Presumptive positive tests will be reported to the attending physician through a

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## OUR MAN ON EDUCATION

(Continued from page 70)

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more Eastern habitation near ancient Sumer, and we must not show ingratitude for that. But

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## DRUG THERAPY REVIEW

(Continued from page 63)

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ure. — REYNOLD SPECTOR, M.D., *Professor of Medicine and Pharmacology; and* RICHARD AHRENS, M.D., *Senior Fellow in Pediatric Allergy and Pulmonary Diseases and Clinical Pharmacology.*

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then, man's ingratitude to man will likely remain difficult to stamp out, as crabgrass or ground ivy in my lawn. Maybe modern or future science will find an "ingratitude nullifier" that we can add, like chlorine and fluoride, to our drinking water. A more optimistic scientist might prefer to call his discovery a "gratitude enhancer."



## December 1979 Morbidity Report

Disease	Dec. 1979 Total	1979 ta Date	1978 ta Date	Most Dec. Cases Reported From These Counties
Amebiasis	0	78	162	—
Brucellosis	2	9	18	Buchanan, Clarke
Chickenpox	1145	9130	6978	Linn, Pattawattamie
Cytomegalovirus	2	12	16	Scattered
Eaton's Agent infection	0	43	134	—
Encephalitis, viral	6	77	37	Scattered
Erythema infectiosum	0	1081	50	—
Gastroenteritis (GIV)	2964	21075	13280	Linn, O'Brien, Palk
Giardiasis	10	54	57	Des Moines
Hepatitis, A	4	185	140	Linn, Palk
Hepatitis, B	9	98	100	Palk, Shelby
type unspecified	2	67	60	Black Hawk, Clayton
Herpes simplex	9	86	93	Black Hawk
Herpes Zoster	0	2	8	—
Histoplasmosis	0	2	3	—
Infectious mononucleosis	19	490	109	Black Hawk
Influenza, lab confirmed	0	34	202	—
Influenza-like illness (URI)	4789	55952	40397	Linn, Palk, Scott

Disease	Dec. 1979 Total	1979 ta Date	1978 ta Date	Most Dec. Cases Reported From These Counties
Meningitis				
aseptic	6	97	38	Scattered
bacterial	11	120	74	Keokuk, Webster
meningococcal	1	15	17	Story
Mumps	7	247	192	Black Hawk
Pertussis	1	4	3	Cerro Gordo
Rabies in animals	17	198	147	Buena Vista, Jasper
Rheumatic fever	0	10	28	—
Rubella				
(German measles)	0	53	72	—
Rubeola (measles)	0	16	73	—
Salmonella	12	188	213	Scattered
Shigella	10	85	85	Scattered
Tuberculosis				
tuberc. ill	10	74	104	Fayette, Palk
bact. pos.	5	61	79	Scattered
Venereal diseases:				
Gonorrhea	411	5863	5579	Scattered
P. & S. Syphilis	0	30	38	—

Laboratory Virus Diagnosis Without Specified Clinical Syndrome: Legionnaires — 1, Chickasaw; Echavirus — 2, Winnebago; Guillain Barré — 1, Dubuque; Para Influenza — 1, Dubuque; Scarlet Fever — 3, Washington, 1, Pattawattamie.

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## ABOUT IOWA PHYSICIANS

Dr. Kenneth R. Britton and Dr. Michael Parisi will begin medical practice in Albia in July. Dr. Britton and Dr. Parisi are graduates of the College of Osteopathic Medicine and Surgery in Des Moines. Dr. Britton is presently interning at Des Moines General and Dr. Parisi is serving similarly at the Davenport Osteopathic Hospital. . . . Dr. Jonathan J. Hruska has been named chief of the medical staff at Buena Vista County Hospital; Dr. W. E. Erps, vice chairman; and Dr. T. E. Shea, secretary-treasurer. All are Storm Lake physicians. . . . Dr. Ronald Lacey has joined the staff at the South Central Mental Health Center in Oskaloosa as interim and part-time medical consultant. A graduate of U. of I. College of Medicine, Dr. Lacey has served on the staff at the mental health unit of Broadlawns Hospital in Des Moines. He is currently on the psychiatric staff of the Mt. Pleasant Mental Health Institute. . . . At a recent meeting of the Tama County Medical Society, Dr. Dennis Mallory, Toledo, was named president; Dr. C. W. Mapletorpe, Toledo, vice president; and Dr. A. J. Havlik, Tama, secretary-treasurer. . . . Dr. Steven Ferguson will join Dr. Richard Honderick in family practice in Rock Rapids in July. Dr. Ferguson received the M.D. degree at U. of I. College of Medicine and is currently completing his family practice residency in Sioux City. . . . Dr. Horst G. Blume, Sioux City, has been named a Fellow of the American Academy of Neurological and Orthopaedic Surgeons.

Dr. Charles V. Edwards has been elected chief of staff at Mercy Hospital in Council Bluffs. Others named include — Dr. Darwin L. Moriarty, president-elect; and Dr. Marlowe A. Jason, secretary-treasurer. All are Council Bluffs physicians. . . . Following are recent staff changes at Veterans Administration Medical Center in Des Moines — Dr. Richard



...in the functional bowel/irritable bowel syndrome\*

# Bentyl<sup>®</sup>

## (dicyclomine hydrochloride USP)

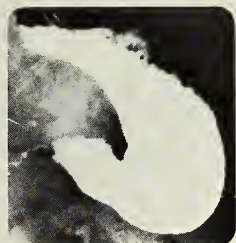
10 mg. capsules, 20 mg. tablets,  
10 mg./5 ml. syrup, 10 mg./ml. injection

helps control abnormal motor activity  
with minimal anticholinergic side effects<sup>†</sup>

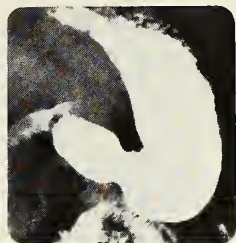
### Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting spasm were randomly selected to receive either 2 cc. of Bentyl or sodium chloride intramuscularly. Ten minutes after the injection another radiograph was taken . . .

. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

*"The correlation of spasm relief and drug given was excellent."*

\*This drug has been classified "probably" effective in treating functional bowel/irritable bowel syndrome.

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

#### Reference:

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(dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

#### INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

**CONTRAINDICATIONS:** Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloro-duodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis. **WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with: Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia, palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

**Usual Dosage:** Bentyl 10 mg. capsule and syrup: **Adults:** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children:** 1 capsule or teaspoonful syrup three or four times daily. **Infants:** ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg.: **Adults:** 1 tablet three or four times daily. Bentyl Injection: **Adults:** 2 ml. (20 mg.) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE.** **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of October, 1978.

Injectable dosage forms manufactured by CONNAUGHT LABORATORIES, INC., Swiftwater, Pennsylvania 18370 or TAYLOR PHARMACAL COMPANY, Decatur, Illinois 62525 for MERRELL-NATIONAL LABORATORIES, Division of Richardson-Merrell Inc., Cincinnati, Ohio 45215, U.S.A.

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**T. Firkins**, formerly in private practice in Wichita, Kansas, has been named section chief, otolaryngology; **Dr. Thomas Lucas**, former staff member at VA Medical Center in Knoxville, acting chief, psychiatry service; **Dr. Sutin Srisumrid**, formerly in private practice in Nebraska, acting chief, radiology; and **Dr. Theerasak Tuangsitthanon**, radiology staff member. **Dr. Bjorn Overgaard**, section chief, ambulatory care section, recently became a fellow of the American College of Surgeons; and **Dr. Vithal Kusuma**, section chief, gastroenterology, has been appointed a diplomate of the American Board of Gastroenterology. . . . At the annual meeting of the American College of Chest Physicians, the following Iowa physicians were named fellows of American College of Chest Physicians — **Drs. Berkeley Brandt, III**, Iowa City; **Thomas M. Brown, Jr.**, Des Moines; **Michael S. Chandra**, Sioux City; **David F. Gordon**, Des Moines; **Ronald K. Grooters**, Des Moines; **Randall R. Hanson**, Des Moines; **Liberato A. Iannone**, Des Moines; and **John R. Lewis**, Dubuque. . . . **Dr. Richard K. Green**, Council Bluffs, has been named chief of the medical staff at Jennie Edmondson Hospital; **Dr. Max Olsen**, Minden,

### HOW MUCH OF YOUR TIME CAN YOU CALL YOUR OWN?

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chief of staff-elect; and **Dr. James Conroy**, Council Bluffs, secretary-treasurer.

**Dr. H. O. Stoutland**, Ackley, was guest speaker at a recent meeting of the Eldora Rotary Club. Dr. Stoutland discussed his three-month tour of duty in 1979 at a mission hospital in Liberia. . . . **Dr. Kenneth D. McMains**, a third-year resident at the Family Practice Center in Waterloo, will open an office in Den-

ver in July. Dr. McMains received the M.D. degree at University of Guadalajara in Guadalajara, Mexico, and Loyola-Stritch Medical School in Chicago. He served one year in a family practice residency at Rush Medical Center in Chicago. . . . **Dr. John Mochal** was named chief of staff at Peoples Memorial Hospital in Independence; **Dr. L. John Flage**, vice chief of staff; and **Dr. Richard Myers**, secretary. All are Independence physicians.

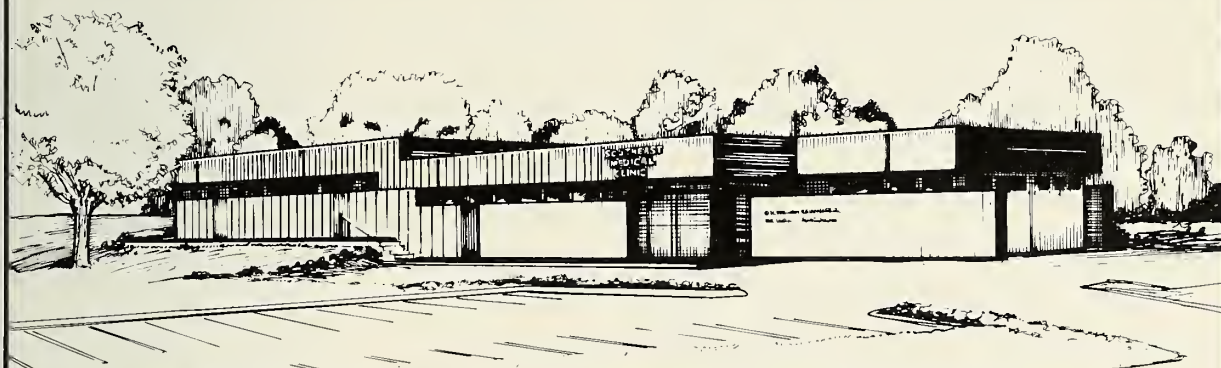
## DEATHS

**Dr. Norman Elmer**, 50, Sumner, died December 21 at Allen Memorial Hospital in Waterloo. A native of Oelwein, Iowa, Dr. Elmer received the M.D. degree at U. of I. College of Medicine and interned at St. Luke's Hospital in Cedar Rapids. He began his medical practice in Sumner in 1959. Dr. Elmer was a charter member and fellow of the American Academy of Family Physicians.

**Dr. C. D. Gibson**, 72, Sac City, died December 21 at a Sioux City hospital. Dr. Gibson received

the M.D. degree at U. of I. College of Medicine. He began his medical practice in Lakeview in 1935 and located in Sac City in 1946. He was a charter member and past president of the American Academy of Family Physicians.

**Dr. Robert M. Collins**, 71, longtime Council Bluffs gynecologist, died December 22 at a Chicago, Illinois, hospital. Dr. Collins received the M.D. degree at University of Nebraska School of Medicine and served his residency in obstetrics and gynecology at University Hospitals in Iowa City. He was a past president of the Iowa Obstetric and Gynecology Society and the Omaha Obstetric and Gynecology Society.



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---

# IOWA MEDICAL ASSISTANTS

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## ABOUT 1980 MEETINGS

"Who's That Knocking at My Door?" Could it be the New Year asking whether you evaluated your 1980 goals? This is a must — if you intend to achieve them.

Is education calling to you? It is a must if you want to be a good medical assistant. The range of education a good medical assistant must have is varied and requires much study to be up to date. Areas vital to any medical office, or hospital, for that matter, include: confidentiality, patient contact, human relations, clinical procedures and current medical knowledge. On the administrative side are record-keeping, bookkeeping, credit and collection procedures, workmen's compensation, insurance, spelling, telephone know-how, legal aspects of your job, and the list goes on and on.

The AAMA, at the local, state or national levels, is happy to provide information on any of the preceding areas. Each local chapter in Iowa has one or two seminars a year. These seminars are open to members and nonmembers. It is important to get your name on the mailing list if you are interested in attending seminars. To do this, contact the nearest AAMA organization and ask to be notified of future seminars.

One advantage of belonging to the local organization is the availability of monthly meetings which usually provide one hour of education. Then too, if there is enough interest, many local organizations will set up further educational seminars.

Attendance at a state convention provides further education in both the administrative

and clinical fields. The 1980 Iowa State Society convention will be hosted by the Siouxland Chapter of medical assistants. The convention program theme will be "Learning, a Tool to Success."

Judging from the information available, there will be plenty of education at the convention. The program will include a legal presentation, an interesting slide presentation and lecture on urological problems; and a death and dying presentation. The administrative portion of the program will cover goal setting and how to do it. Employees, as viewed by an employer, will be discussed, together with the importance of a work manual — no matter what type of work you are doing.

AAMA national will be sending a representative, and this provides a perfect opportunity to get any and all information regarding our organization and its objectives.

Is social life calling to you? The state convention is an excellent opportunity to meet other medical assistants who are involved in the same profession. What better way is there to get another view of how to best accomplish your goals? The importance of knowing your fellow medical assistants, being able to call them by name, to discuss mutual problems, is a distinct advantage.

The AAMA State convention should be a fun time, as well as a learning time. Why not answer the knock at your door. Mark May 16, 17 and 18, 1980 on your calendar now. All the action will be found at the Holiday Inn, just off I-29 in Sioux City. Fliers will be mailed in February and March. Should your name not be included on the mailing list, feel free to contact Cathy Schmitt, 2928 Hamilton Blvd., Sioux City, Iowa 51104 or Janice Holahan, 1815 Pierce St., Sioux City, Iowa 51105.

SEE YOU IN MAY, 1980.

## TO THE PHYSICIAN

The door to AAMA is open to all medical assistants. With a new year approaching, please encourage your assistants to cast an eye in our direction. We are certain our various educational programs will be valuable to their advancement.



This Journal is owned and published monthly by the IOWA MEDICAL SOCIETY. It contains material of scientific and socioeconomic interest mainly to Iowa physicians. The IOWA MEDICAL SOCIETY has 2,900 member physicians in 92 county medical societies. The IMS Headquarters is at 1001 Grand Avenue, West Des Moines, Iowa 50265.

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# JOURNAL OF THE IOWA MEDICAL SOCIETY

MARCH 1980 / VOLUME 70 NUMBER 3

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**ABOUT THE COVER** — This month's cover focuses member attention to the 1980 Iowa Medical Society Annual Scientific Session to occur in Iowa City April 16, 17 and 18. The full program for the meeting is included in this issue along with invitations from President Seebohm and Program Chairman Pitkin. The session promises to be a good one. You are urged to attend!



## PRESIDENT'S PRIVILEGE

---

**"K**EEPING UP," as every physician knows, is essential to good medical practice, and, from personal experience, I might add it is important to good medical administration as well. Medical knowledge may not actually be exploding in our time, but it certainly is changing at a fast pace, and the physician who does not recognize this may soon be out of step with reality. In today's medical climate one would have to work at not learning to avoid new knowledge. I find what sounds like a wearisome task, namely, reviewing all of the medical audits in University Hospitals one of the highlights of my personal program for "keeping up."

I am sure all of us have our own preferred method of learning, be it lecture, small group discussion, case swapping with colleagues, audio tapes, journal reading, or all or part of the preceding.

A number of physicians resent being required to meet a CME requirement to remain licensed to practice medicine, and I am among

them. It is not that they are opposed to continuing their education, but being told to do so. But the law is with us, it is a minimum requirement, and hopefully it will not keep us from doing the right thing albeit for the wrong reason!

With that preamble, in behalf of the College of Medicine, I want to welcome you to Iowa City to attend the Annual Scientific Session (April 16, 17, 18) of the Iowa Medical Society. I am pleased to say the IMS will host the cost of a topflight course offering 12.5 credit hours in Category I. This is a benefit of Society membership you can't hardly find anymore. Hope to see you all at The Highlander.

*Paul M. Seebohm M.D.*

Paul M. Seebohm, M.D.



# VOX DOCS

This month's Vox Docs question is at the bottom of the page. Please answer it and send to IMS JOURNAL, 1001 Grand Avenue, West Des Moines, Iowa 50265. The response to our February question is shown to the right together with several of the comments we received.

"I believe this is most obvious in accident cases, and specifically in car accidents which involve cervical spine and head injuries." — John F. Hess, M.D., Cedar Rapids

"I take more time in exploring surgical procedures, including as many complications as I can think of — also as an orthopedic surgeon any extremity injury exam *must* include X-rays. I am also more conscious of record-keeping and chart notes." — Lewis B. Harned, M.D., Waterloo

"I have not been very aware of defensive attitudes in our community. I do not feel I have changed my attitudes in the last six years either." — P. D. Wallace, M.D., Iowa City

"Emergency room is the spot where many tests are ordered and the thought is present, 'What if I miss something.'" — L. R. Fane, M.D., Mason City

## LAST MONTH'S QUESTION — DEFENSIVE MEDICINE! DOES IT EXIST OR NOT?

Defensive medicine is a term that's come to prominence as liability claims have increased. Are you conscious of defensive medicine being practiced by yourself and those around you?

CONSCIOUS OF DEFENSIVE MEDICINE	94%
NOT CONSCIOUS OF IT	6%

"I am certain defensive medicine is a large factor in the medical cost spiral. This is especially evident in the ER where the tendency is to 'rule out' rather than 'rule in.'" — J. L. Kehoe, M.D., Davenport

"On examination of medical records in my work as an attorney, I note an aggressive and satisfactory trend toward better history physical examinations — more documentation in the progress notes and thoughtful final summaries. If this is a result of consciousness of defensive medicine, it is indeed a gratifying by-product." — Mark D. Ravreby, M.D., Des Moines

## MARCH QUESTION FOR IOWA PHYSICIANS

National Blue Cross and Blue Shield were reported recently in AM News to have said that "dramatic reductions" occurred in hospital inpatient days, admissions and lengths of stays during the decade ending in 1978. And with this, there's been a "sizable increase" in the use of outpatient services. Are you cognizant of such developments in your area?

☐ It's happened in our locale.

☐ No, this isn't the trend here.

Comment, please: \_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

(Please Send to IMS JOURNAL, 1001 Grand Ave., West Des Moines, Iowa 50265)



## QUESTIONS - ANSWERS

**ROY M. PITKIN, M.D.**  
Iowa City, Iowa

### AN APRIL INVITATION

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*Dr. Pitkin is chairman of the Program Committee for the 1980 Scientific Session. He's also professor and head of the U. of I. Department of Obstetrics and Gynecology. Please see the eight-page insert for the full program of the 1980 Scientific Session in Iowa City.*

---

#### **What is happening in Iowa City in Mid-April?**

The 1980 Scientific Session of the Iowa Medical Society will be held in Iowa City April 16, 17, and 18, 1980. The session will begin at noon on Wednesday, April 16 at the Highlander Inn. It will continue on Thursday, April 17 at the University Hospitals-Medical School Complex. On Friday morning, April 18, the session will be held back at the Highlander Inn. It will conclude at noon on that day.

Social functions will be held both Wednesday and Thursday evenings. On Wednesday, the University of Iowa Foundation and College of Medicine will sponsor a reception for members and guests and the annual IMS reception/scientific banquet will be held Thursday evening. Both of these activities will take place at the Highlander Inn.

#### **Does the 1980 Scientific Session have broad appeal?**

The Program Committee has designed the 1980 Scientific Session to have broad appeal for *all* physicians. The program will include a number of presentations to highlight and update recent developments in medical practice, as well as to review other topics of interest to practicing physicians.

#### **Are there any sessions you'd like to call particular attention to?**

The program will feature a panel discussion on alcoholism and its problems, as they affect both patients and physicians. New developments in cancer will be reviewed by another panel. Each clinical department in the College of Medicine will make a brief presentation summarizing current concepts for each specialty. Legal obligations of the physician, particularly those mandated by recent changes in the state laws, will be discussed. New diagnostic and therapeutic measures in cardiovascular diseases will be featured.

#### **What are the educational benefits of attending a meeting such as this?**

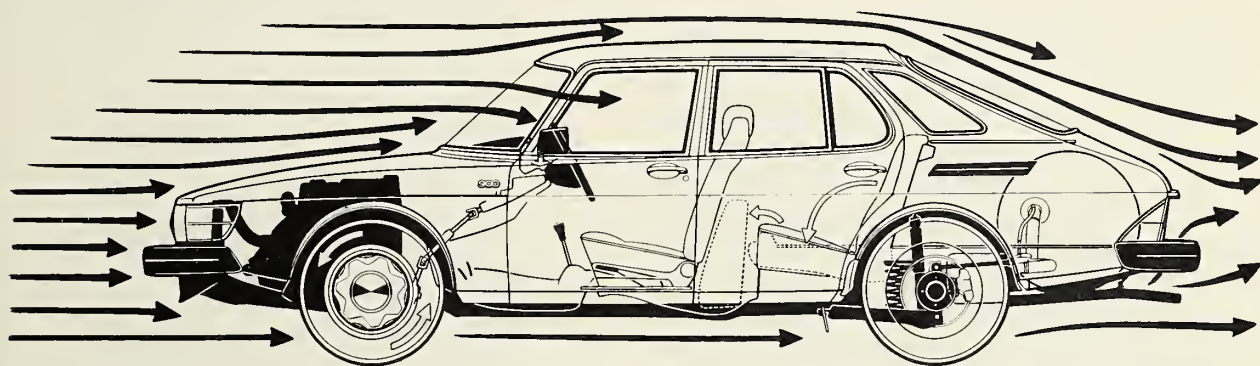
The breadth of subjects covered on the program should ensure that everyone attending will learn something to benefit his/her practice. By becoming familiar with new developments in all areas of medicine, the physician will be better able to incorporate these innovations into patient care. Familiarity with the business and legal aspects of medical practice is essential in this day. Finally, portions of the program having to do with matters affecting the physician on a more personal basis should be of interest and value.

#### **Do you want to issue an invitation to all to attend?**

On behalf of the 1980 Program Committee, I certainly do. It is our hope that every member will be able to attend and participate in the 1980 Scientific Session of the Iowa Medical Society.



# Cars don't fly. Why should they be aerodynamically designed?



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Saabs, in any case, have

never been anything but aerodynamic, owing, perhaps, to the fact that the very first Saabs were designed by aircraft engineers—engineers working unencumbered by preconceived notions of how cars should be styled.

In these times, no other measurement of a car's shape truly ought to matter.

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# NEWS/PRODUCTS, PROGRAMS, ETC.

*Information on various products, programs, etc. is received regularly by the IMS JOURNAL. Here are short items sifted from the mail by the Scientific Editor. A reference to a specific product is not intended to suggest any particular endorsement. Additional information on any entry may be obtained by contacting the IMS JOURNAL.*

**ABOUT ATHEROSCLEROSIS** — Health professionals may obtain free a concise review of research conducted this past decade on atherosclerosis and diet. A 22-page booklet, "Atherosclerosis Update — Emphasis on Diet," may be requested by writing on letterhead to Best Foods Nutrition Information Service, Department AU-MSL, Box 307, Coventry, Connecticut 06238. The report covers recent findings on lipoprotein metabolism and critiques the dietary changes now in use to try to reduce the morbidity and mortality from atherosclerosis and coronary heart disease.

**SPEAKING AGAIN** — A new Easter Seal publication has info for laryngectomees and their families. The booklet, "Same Face, New Sound," describes how patients learn to speak again and shares other common problems in resuming normal living. The crucial role of family and friends is emphasized. Also included is a list of aids and equipment, plus sources of additional help and information. The booklet is available for 75¢ (plus 25¢ postage and handling) from the National Easter Seal Society, 2023 West Ogden Avenue, Chicago, Illinois 60612.

**HOME CARE** — The AMA "Physician Guide to Home Health Care" puts emphasis on providing quality and cost-efficient alternatives to institutional care. It calls for physician leadership in the development and provision of home health care for patients who can benefit from such services. The cost is \$1 per copy with discounts for quantity orders. Write to AMA Order Dept., OP-077, P. O. Box 821, Monroe, Wisconsin 53566.

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**CONTRAINDICATIONS:** Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma, agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, hypertensive crises may result.

**WARNINGS:** If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

**PRECAUTIONS:** Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

**ADVERSE REACTIONS:** **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

**DOSEAGE AND ADMINISTRATION:** Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

**OVERDOSAGE:** Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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References: 1. Citations available on request from Medical Research Department, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon [Dillon], R.H., and Leyland, H.M.: A comprehensive review of diethylpropion hydrochloride. In, Central Mechanisms of Anorectic Drugs, S. Garattini and R. Samanin, Ed., New York, Raven Press, 1978, pp. 391-404.

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## SCIENTIFIC ARTICLES

# Problems Identified In IPPB Study

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*Intermittent Positive Pressure Breathing (IPPB) is the topic of a statewide shared medical care evaluation study conducted by the Continuing Medical Education Committee of the Iowa Foundation for Medical Care. A summary of that study is presented here.*

---

IN 1978, the Continuing Medical Education Committee of the Iowa Foundation for Medical Care developed the plan for a shared medical care evaluation study on intermittent positive pressure breathing (IPPB) treatments. The topic was chosen to assure that IPPB was used to treat hospitalized patients only when indicated and that treatments were performed appropriately. It was suspected such a study might disclose problems, even with a sample of only a limited number of issues. This suspicion was right.

Participating hospitals were to study the rec-

---

Members of the Iowa Foundation for Medical Care Continuing Medical Education Committee are Richard Caplan, M.D., Charles Driscoll, M.D., Robert Pfaff, M.D., Harold VanHofwegen, M.D., George West, M.D., and Sam Williams, D.O. Assistance has also been provided by Jennifer Cofer, M.A., of the IFMC staff.

ords of all (or the first 100) patients of both sexes who received IPPB treatments between January 1 and December 31, 1977. The criteria and instructions for processing data were provided, along with our rationale for selecting the criteria.

### RESULTS

Forty-one hospitals chose to participate in this study. This involved 563 physicians and 3,076 patients. The hospitals ranged in size from 29 to 620 beds.

**Criterion 1** — The first criterion specified indications for use of IPPB: a) bronchospastic disease; b) mucus-producing pulmonary disease, and c) atelectasis, if volume-oriented apparatus is used.

There were 704 instances of IPPB use in situations other than those listed by the Committee. The 704 variations occurred in 36 (88%) of the 41 participating hospitals and affected an average of 26% of the patients treated. The local hospital committees considered the variations and justified 320. Approximately two-thirds were justified by documented clinical findings, such as "difficulty raising sputum." Another one-third, however, were justified on

THE SCANLON MEDICAL FOUNDATION/IOWA MEDICAL SOCIETY HAS DESIGNATED THIS ARTICLE  
AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF MARCH 1980.

grounds that "IPPB is used routinely in the postoperative period." We suggest this is a pseudo-justification and not acceptable in audits. It is essentially saying, "We don't need to examine our reasons — it is merely necessary that we have a routine policy and follow it." We believe such a policy is inappropriate with today's knowledge of IPPB. The proper action is to change the policy, not to justify the variations simply because they follow an existing (and perhaps unsatisfactory) policy. In addition to the 320 justified variations, there were 394 self-termed "deficiencies" in 73% of participating hospitals. This means an acknowledged deficiency occurred among 16% of patients treated in those 30 hospitals. When spread over the total patient population in the 41 hospitals, the deficiency rate was 12%. The IFMC Committee believes this figure, even as an estimate, represents substantial overutilization.

**Criterion 2** — Pneumothorax is considered a contraindication to IPPB unless a chest tube is in place. There were 28 instances of identified pneumothorax among the 3,076 patients. A chest tube was placed in 11, leaving 17 without, to represent a variation percentage of 0.5 in the total patient population. Although the appropriateness of a few of the justifications is debatable, 5 acknowledged deficiencies remained. Those instances of unjustified administration of IPPB in the face of a contraindication occurred in 3 hospitals. One of the 3 hospitals acknowledged a problem and planned an educational program on IPPB. The other 2 hospitals appeared not to react to the deficiency in any way. These numbers do not allow for the identification of any *pattern* or trend, and the percentage of variations or deficiencies for this criterion seems very small. However, the criterion is a contraindication; the potential danger to the patient is sufficiently great to warrant educational or administrative action to eliminate additional instances of deficiency.

**Criterion 3** — IPPB treatment generally should not exceed 3 days, except for mucus-producing disease (the rationale being that further diagnostic or therapeutic measures should be instituted rather than continued use of IPPB). A large rate of variation was found — 781 (25%) among the 3,076 patients. The variations were spread among 37 (90%) of the participating 41 hospitals. An exception was permitted to allow 6 additional days with the

presence of a mucus-producing pulmonary disease; this exception was present in 511 instances. Most of the justifications were related to some aspect of the patient's clinical condition, although the logic of our recommended 3-day cutoff was violated by most of the justifications. One hospital justified most of its variations by appealing to a "hospital policy of 5 days of treatment." The reader is urged to recognize the inappropriateness of such an unexamined "justification." Thirty-seven hospitals had variations, and 32 of them determined that they had deficiencies. The deficiency involved an average of 17% of their patients, representing 15% of the total patients in the study. Quality of care considerations are apparent, as are cost implications.

Most hospitals reacted to the deficiencies with one of 3 plans: a) physician education; b) use of alternate therapy; or c) initiation of a routine stop-order after 3 days of treatment. We have no objection to the first two plans but think the *administrative* solution offered by the third plan is excellent. Combined with physician education on the reason for the 3-day stop-order, use of the third plan seems more likely to assure the desired change in behavior than "education" alone. On matters of quality assurance, administrative solutions are often superior to and more definitive than educational remedies.

**Criterion 4** — Criterion four specifies that saline solution, by itself, should not be used in IPPB treatments. The rationale lies with saline's ability to cause bronchospasm and, thus, add to the patient's respiratory problem. "Most studies on the *spirometric effects* of IPPB show that there is marked improvement in bronchospastic subjects with obstructive pulmonary disease only if bronchodilators are aerosolized. If plain saline is nebulized, then spirometric measurements may worsen, and if IPPB without any aerosol is given, the same adverse result may be obtained."<sup>1</sup> Not only do spirometric readings fail to improve, but "there is no improvement in bronchial clearance or decrease in sputum viscosity, and, indeed, high-density aerosols may cause worsening of airways, obstructions, and hypoxemia."<sup>2</sup>

Thirty-nine hospitals reported 1,202 variations and justified 389. About half of the justifications were to the effect "IPPB with saline alone is acceptable in this hospital." There is a legitimate basis for disagreement with us; this,



in fact, is the logic of "delegated status," where a hospital is permitted to judge the appropriateness of its criteria variations. But in a situation like this, where responsible opinion exists to the contrary, we believe the hospital has the burden of finding scientific validation for its position, and not simply say "we do what we do, and what we do is acceptable because we do it." An additional consideration is cost. If one wishes to nebulize a solution of saline, there are easier and cheaper ways to do it than IPPB.

Most hospitals planned educational sessions for their physicians to respond to the finding of 813 deficiencies (16% of the total patients). This seems to be an appropriate response. If reaudit fails to produce satisfactory improvement, other approaches should be tried.

**Criterion 5** — The JCAH specifies that IPPB must be administered with a "complete order," thus obliging the physician to think specifically about what diluent, what bronchodilator, what amount of oxygen, and what rate is appropriate for the particular patient. To have a routine or standing procedure used in all instances is to invite unthinking or reflex prescribing. Those most knowledgeable about IPPB believe this is inappropriate. (By analogy, consider a prescription for a stroke patient to "go to physical therapy" without ever specifying what sort of physical therapy is to be administered.) There were 2,432 variations in 37 of the 41 hospitals. Thus, 79% of the total patients and 90% of the hospitals were involved in variations. Nine hospitals justified their 562 instances on the basis of "standard procedure covering their respiratory therapy orders." However, the entire logic for this criterion says that "standard orders are not acceptable." These hospitals did not appear to understand the message. Even worse, a few *developed* standard operating procedures for respiratory therapy as a response to the deficiencies they identified. Most planned an educational effort to emphasize the importance and content of a "complete order."

**Criterion 6** — Fresh tubing is to be used with each treatment, or at least changed every 24 hours for patients with multiple treatments. Variations totaled 2,375, or 77% of the patients in 32 (78%) of the hospitals. It is likely these variations are the result of a lack of documentation, because most hospitals said they change the tubing in a proper manner. In the absence

of documentation, such assurances cannot be proved. We believe the tubing change is important enough to warrant documentation, just as is the administration of a medicine or the performance of some other treatment procedure. We asked only that each hospital committee be informed of the number of variations. In 20 hospitals it was decided a problem existed. Action was undertaken to remind those giving the treatments that it is important to discard used tubing each day and to record the action. One hospital, rather than place documentation in the patient record, started to monitor compliance by periodically comparing the number of patient days of treatment with the number of tubing units taken from hospital stores — a highly creative solution that avoids large numbers of chart entries.

**Criterion 7** — The development of pneumonia or other infection or atelectasis *after* the initiation of IPPB is expected in 0% of instances. It occurred, however, in 69 (2.2%) of 3,076 patients and in 19 (46%) of the 41 hospitals. An exception was specified, that a pre-IPPB clinical impression of pneumonia, if documented and a culture ordered, would satisfy the criterion. Only 3 exceptions occurred. Twelve instances remained as deficiencies; the other 57 were justified locally, with the conclusion that the complication could not be attributed to IPPB. Perhaps correct, perhaps not. This criterion was included in part to provide information about the frequency of such complications and in part to draw attention to the importance of carefully considering complications of any kind that *follow* treatment, whether or not the treatment was the *cause*.

Two interesting questions arise from the fact that 7 hospitals acknowledged 12 deficiencies. First, why did they conclude that the occurrence of a complication somehow represented *deficiency*? (About all we can conclude is the treatment did not successfully prevent the complication.) Secondly, for those hospitals that suggested "education of the physician" as the action step for the "deficiencies," what would be the content of such education? Perhaps this exemplifies "physician education" as a reflex rather than a thoughtful response to the issue and to the meaning of the data. The finding should stimulate further inquiry into the appropriateness of the treatment procedure and the cleanliness of equipment,

etc. That inquiry might properly give rise to physician education.

**Criterion 8** — The final criterion requires review of all instances of cardiac arrest, CPR, or death within 30 minutes of giving IPPB. Nine instances occurred in six (14%) of the hospitals. The 9 were justified by the hospitals, leaving none categorized as deficiencies. The 9 justifications were difficult to accept. One death was called "not related to treatment," and we wonder how they know. Another was justified because "the patient was *in extremis* for several days"; we wonder how IPPB could be properly administered to a patient who almost surely could not cooperate as necessary. Two deaths were justified because myocardial infarction occurred and the local committee believed it was not caused by the treatment. One instance involved "Code Blue" on respiratory therapy progress notes, but was not confirmed in the doctor's or nurses' notes — an exceedingly curious documentary inconsistency. Four deaths occurred under circumstances that might have had no relation to the just-concluded IPPB, but they all occurred at one

small hospital. A review of indications and procedures would seem wise.

#### CONCLUSION

We found important problems with each study criterion that lowered the quality of care and generated unnecessary costs for IPPB treatments. The problems can be remedied through education, administrative procedures, and devotion to excellent patient care. We hope hospital personnel and medical staff members will review this summary thoughtfully. Every hospital had deficiencies on one or more criteria. Improvement should be documented on follow-up audits.

#### ACKNOWLEDGEMENT

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# Intermittent Positive Pressure Breathing: A Continuing Controversy

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ONE INTERESTING EXAMPLE of the concerns and challenges facing medicine today involves the use of intermittent positive pressure breathing (IPPB). IPPB is a service which can add appreciably to the cost of medical care, and in many hospitals it is a major source of revenue. And yet it is of doubtful value.

As a result, IPPB has to come under increasing scrutiny by government officials and others. If respiration therapy (RT) is a major revenue source for a hospital, it is bound to be subjected to cost saving intervention. Those who doubt that such intervention can occur are directed to Transmittal No. 745, a set of federally proposed guidelines for funding RT services.<sup>1</sup> These guidelines set off shock waves among RT directors and their hospital administrators.

Machines used for IPPB were introduced by Motley *et al* in 1947.<sup>2</sup> They provided ventilatory support and replaced the older, more cumbersome tank-type respirators. In this role, the pressure cycled ventilator was a welcomed improvement. It offered a transitional device which led to the volume ventilator now in use. These devices became useful for acute hyper-

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*IPPB has no documented value. Its use should be discouraged. This is the view of the authors. They cite various studies to support their skepticism as to the worth of this therapy.*

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ventilation and were subsequently advocated for short term therapeutic use in obstructive lung disease, atelectasis, pneumonia and other acute and chronic pulmonary problems.

Numerous publications have extolled and condemned the use of pressure cycled ventilators as short term, therapeutic aids to inflation of the lung with or without added aerosolized medication. While the controversy has continued, IPPB has expanded into a two billion dollar medical care cost.<sup>3</sup>

This paper will review critically the current uses of IPPB, evaluate the effectiveness and set forth IPPB utilization guidelines based on documented benefit relative to cost, safety and difficulty of application.

## CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

Chronic bronchitis and emphysema affect approximately 7.8 million people in the United States. These patients are often a source of frustration for health professionals because of the relentless downhill course despite optimum therapy. As a result, when Motley<sup>2</sup> and associates observed increased lung volumes and improved blood gas levels during IPPB therapy, both in normals and patients with emphysema, there was enthusiasm for its use. COPD outpatients acquired their own IPPB machines for home use or were sent to "puff parlors" often operated by attendants of lim-

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ited training. Hospitals have been induced to establish inhalation therapy departments to provide IPPB therapy. As a result, IPPB came into wide medical use before adequate controlled studies were published to establish its efficacy.

Since COPD therapy is a major application for IPPB, it is important to see what IPPB purports to do, whether it accomplishes these objectives, and what, if any, documented clinical improvement occurs with its use.

IPPB has been said to be of value in COPD patients because it: 1) increases alveolar ventilation, 2) decreases work of breathing, 3) improves distribution of inhaled gases, and 4) is a suitable method to deliver aerosol medication.

There is little doubt IPPB can increase alveolar ventilation in both normals and in patients with stable COPD, this is reflected by a decreased  $\text{PaCO}_2$ . Frequently, however, the degree of increased alveolar ventilation noted with IPPB can be duplicated by simple voluntary effort by the patient without mechanical aid, thus making IPPB superfluous. In patients with acute respiratory failure, a situation where hyperventilation might be of value, the ability of IPPB to increase alveolar ventilation is less well documented. In 13 COPD patients with acute respiratory failure studied by Sukumalchantra,<sup>4</sup> 16 of 27 IPPB treatments failed to decrease the  $\text{PaCO}_2$  despite careful management. The cause of this unfavorable response was reportedly an inability to increase minute ventilation, an increase in dead space ventilation and an IPPB induced increase in metabolic rate of the patients. Kamat<sup>5</sup> and associates, in a similar study, concluded that IPPB improved alveolar ventilation in only 7 out of 36 treatments among 18 patients with severe COPD. Based on these findings, it appears IPPB is not a reliable way to increase alveolar ventilation, especially in patients with severe COPD.

A second theoretical value of IPPB to COPD patients is its ability to reduce the work of breathing. Ayers<sup>6</sup> and colleagues found breathing effort in COPD patients treated with IPPB to be either unchanged, improved or worsened when compared to the work of spontaneous ventilation. They discovered that respiratory effort evoked while on IPPB varied and depended on the degree of patient cooperation. If patients actively lead the machine, a common IPPB therapy problem, the work of

breathing was observed to increase.

Sukumalchantra<sup>4</sup> found inspiratory work decreased in COPD patients treated with IPPB, but the expiratory work increased over unassisted ventilation, and as a result, the net work of breathing remained essentially unchanged. Finally, it should be emphasized the work of breathing decreased only during IPPB administration and post therapy work was not diminished.

#### DISTRIBUTION OF VENTILATION

Another theoretically beneficial effect of IPPB is its suggested ability to improve the distribution of ventilation in COPD patients. A standard clinical method of evaluation here is the measurement of the alveolar-capillary (A-a) gradient. However, this has not been widely studied in patients on IPPB. A limited evaluation by Ayers and Giannelli<sup>7</sup> involved 6 subjects treated with IPPB and reported the A-a gradient consistently increased with this therapy, suggesting a deterioration of distribution. Torres *et al*<sup>8</sup> and Cohen *et al*,<sup>9</sup> using the nitrogen washout test as an estimate of dead space ventilation, were unable to demonstrate any difference between IPPB and spontaneous breathing.

An analysis of available data on the effects of IPPB in COPD patients suggests (1) the effect of this therapy on the work of breathing appears minimal; (2) the alveolar ventilation can either improve or remain the same, and (3) finally, there is no evidence that IPPB improves the distribution of inhaled gases. Unfortunately, all of these effects of IPPB, even if real, have been noted as transitory, lasting for only about one hour after therapy.<sup>10</sup>

Another important point which has been studied is the effect of IPPB on the clinical course of COPD patients. Thornton *et al*<sup>11</sup>, in a 1974 study, hospitalized 17 patients with severe COPD. Under careful supervision, IPPB was administered 10 minutes every waking hour for 14 days. Any effects of therapy were monitored by pulmonary function tests before and after hospitalization. No effect on pulmonary function was noted.

A study by Cerniack and Svanhill<sup>12</sup> involved 88 patients with COPD randomly assigned to therapeutic groups employing bronchodilator therapy delivered by either an air compressor power nebulizer or by IPPB. At the termination

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of the study, after 4 to 6 years of follow-up, no differences were noted between the groups as to mortality, morbidity or days spent in hospital. It was observed the IPPB patients developed a significantly greater residual volume, a change which cannot be conceived as beneficial. Other similar studies, noting the effects of chronic IPPB therapy, have also failed to demonstrate significant benefits in stable COPD.<sup>13, 14</sup>

#### ACUTE EXACERBATION

IPPB has also been suggested as useful therapy in patients with COPD who have an acute exacerbation. This is one indication for IPPB, as suggested in the respected pulmonary text by Guenter and Welch.<sup>15</sup> Unfortunately, there are no acceptable data to support this view. On the contrary, it has been reported there is often no improvement of alveolar ventilation with IPPB therapy in patients with COPD and ventilatory failure. It should be stressed that patients in ventilatory failure are frequently unable to cooperate with any therapy due to severe dyspnea and obtunded mental state, and as a result this finding is not surprising. In addition, it has been documented that appropriate medical management without IPPB is often satisfactory in therapy of these patients. For example, of 44 patients with acute respiratory failure ( $PO_2 < 60$  &  $PCO_2 > 50$  with  $pH < 7.30$ ), treated conservatively without IPPB, only 2 needed intubation.

#### PREVENTION OF POSTOPERATIVE ATELECTASIS

IPPB has been widely advocated as a method of preventing or decreasing postoperative complications in patients with normal pulmonary function or in individuals with COPD. Since it has been believed that atelectasis is in part a result of restricted tidal volume, IPPB, if it could increase inspired volume, would be of value. The use of IPPB for this purpose was supported by Anderson *et al* in 1963.<sup>17</sup> This report was on a study of 202 patients who underwent a variety of operations. Forty-three patients were treated with IPPB with the effects of this therapy compared to a control group in which the details of respiratory care were not reported. In the IPPB treated group, only 2.5% had what were considered to be pulmonary complications (fever, cough, rales, or an ab-

normal chest x-ray), as compared to an incidence of 19.5% in the control group. This difference was and is impressive but should be viewed knowing that not enough details of therapy in the control group are available to provide solid judgment of value. Since this report, other controlled studies of a similar nature have failed to confirm these findings.<sup>18-20</sup>

Also, the use of IPPB for prevention of postoperative atelectasis must be compared with other standard, often cheaper, techniques which have been used to prevent these complications. Included here are incentive spirometry, blow bottles, coughing and early ambulation. In a recent study comparing IPPB with both blow bottles and incentive spirometry, the highest incidence of postoperative pulmonary complications, as well as side effects of therapy, were noted in the IPPB treated group.<sup>21</sup> Dutton *et al*<sup>22</sup> have also observed lung volumes and oxygenation in patients treated with IPPB in the postsurgical period. In this small but good study of 12 patients, it was noted the functional residual capacity (FRC) decreased in 9 of 10 patients who had normal FRC preoperatively. It was also observed that  $PaO_2$  deteriorated from a pre-treatment mean of  $67.8 \pm 4.3$  to  $57.7 \pm 4.2$ , indicating that IPPB was not beneficial and suggesting it may even be harmful in this situation.

Therefore, the role of IPPB in the prevention of postoperative atelectasis is at best doubtful and may be of less value than other procedures, such as incentive spirometry.

#### DELIVERY OF AEROSOL

It has been a common misconception that the increased pressure generated during IPPB may provide better distribution of aerosol into the periphery of the lungs. Despite this widespread belief, numerous articles have shown aerosol can be administered by spontaneous ventilation as well with as without IPPB. Dolovich,<sup>23</sup> in a cross-over study using a radionuclide aerosol, compared IPPB against a hand powered nebulizer used during quiet breathing in 9 patients with severe but stable COPD. He was able to draw 2 conclusions. First, both techniques delivered most of the aerosol to the inner portions of the lung, and IPPB did not increase peripheral deposition as compared to the simpler method. Second, IPPB delivered 32% less aerosol to the lungs



because it was associated with greater fallout in the mouth, postpharynx and trachea as compared to the nebulizer, probably secondary to higher air flows.

It has been suggested, however, that IPPB may be useful in patients unable to use effectively a pressure type nebulizer because of the inherent problems of coordinating the use of this device with respiration. This may be true, but the problem also can be solved through the cheaper use of a power driven nebulizer. Therefore, because a cheaper and effective method of delivering aerosol is available, IPPB appears to offer no significant advantage over other methods of delivering aerosolized medication to the lung.

#### PNEUMONIA

In many hospitals, it is standard procedure to order IPPB as an adjuvant in the treatment of pneumonia and until the Graham and Bradley perspective study<sup>24</sup> was done, the benefits of therapy to this condition had not been challenged. In this recent study, 54 patients with uncomplicated pneumonia were randomized to either IPPB — chest physical therapy, or control group, the latter receiving routine care. All were treated with appropriate antibiotics based on the gram stains and culture of sputum, and they received similar supportive care. The results showed no statistically significant difference between the two groups in duration of fever, rate of radiographic clearing of pulmonary infiltrates, duration of hospital stay, or mortality. As a result, until other refuting evidence is available, the value of IPPB and chest physical therapy in pneumonia has not been established.

#### OTHER CURRENT USES

The use of IPPB in asthma and cystic fibrosis is at best controversial. Currently, the belief is that it should be avoided because other effective means of delivering aerosol are available and there is potential risk of barotrauma in these patients.

#### RISKS OF IPPB

What are the risks of IPPB? The major reported hazards are excessive ventilation, excessive oxygenation, a decreased cardiac output during therapy, the induction or exacerbation of pneumothorax, worsening of hemoptysis, and the possible transmission of infection. In inexperienced hands, hyperventilation

during IPPB is common and can lead to dizziness and even loss of consciousness. Excessive oxygenation can be a problem during IPPB because most IPPB machines use oxygen as the pneumatic power source, and this can be a potentially dangerous problem in COPD patients who have CO<sub>2</sub> retention if IPPB is used without appropriate safeguards. Cardiac output can decrease during IPPB therapy because of increased thoracic pressure, which can cause a decreased venous return. While this is not common, it could lead to significant hypotension in patients with low cardiac reserve.

Barotrauma, directly related to IPPB treatments, has not been widely reported. However, it has been shown that certain other forms of pressure therapy such as PEEP and ventilation with high tidal volumes, perhaps analogous to IPPB, often used in continuous ventilation have an associated increased risk of pneumothorax. This has resulted in concern that IPPB may also be associated with an increased risk in certain patients as well; for example, asthma. If a pneumothorax is already present before IPPB therapy, it can be increased by IPPB and the more serious complication of tension pneumothorax can be produced.

Hemoptysis may have worsened by IPPB, but documentation of this side effect is scanty. Nosocomial infections transmitted by IPPB are well recognized but are currently not much of a problem with adequate methods of infection control.

#### CONCLUSIONS

The data presented here lend little support for the widespread use of IPPB. Critical evaluation of the data which might support therapeutic enthusiasm for this form of therapy leads to the conclusion that in no single instance can it be stated that IPPB has been shown to have unequivocal value either alone or in combination with other therapeutic modalities. It is disquieting that despite this lack of adequate documentation of value, IPPB has been and continues to be used by individuals who have or should have a reputation for critical thinking and skepticism. At present it is our opinion that IPPB has no documented value and its use should be discouraged.

#### REFERENCES

The references noted in this paper are available on request either from the authors or the JOURNAL OF THE IOWA MEDICAL SOCIETY.



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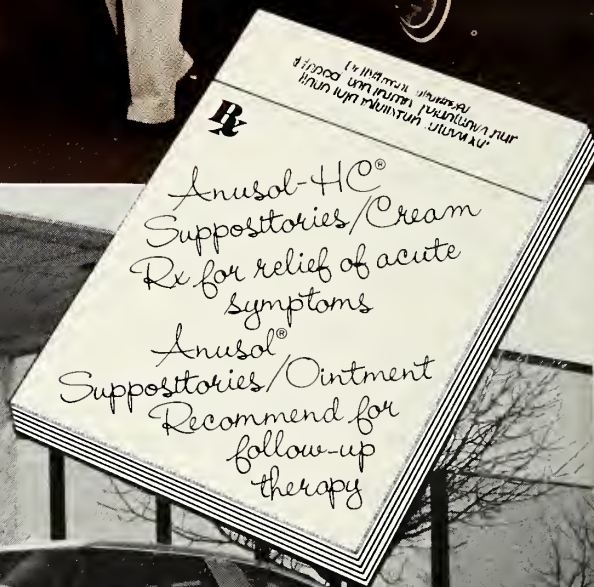
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# Use of Estrogen Receptor Data: Recommendations for Iowa

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SINCE THE DEMONSTRATION by Beatson<sup>1</sup> of hormone responsiveness in human female carcinoma of the breast, hormonal manipulation of recurrent/metastatic disease has been important in the management of these patients. In 1967, Jensen and co-workers<sup>2</sup> demonstrated the presence of estrogen receptors in rat mammary carcinoma. In 1970, a method for determining estrogen receptor in human mammary carcinoma was reported by Korenman and Dukes.<sup>3</sup> These findings paved the way for development of an improved test to be used in the selection of patients for hormonal therapies. Schmidt, *et al*,<sup>4</sup> in 1971, described their experience with adrenalectomy and found that site of metastasis and age of patient were the best predictors of response. Their analyses identified certain subgroups not offering good candidates for this procedure, e.g., patients 40-50 years old with short disease free intervals and brain or liver metastases. However, most categories of patients were of an

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*The treatment of women with carcinoma of the breast has seen a new technology develop since the mid-1970's. Women with positive tests for estrogen receptor have a greater than 50% chance of response to hormonal therapy; those with negative tests have a less than 5% chance of response. Obtaining and using this information in treatment decisions is important. Specific guidelines for use of this test are provided here by the Iowa Medical Society Committee on Oncology.*

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indeterminate nature with the selection for or against adrenalectomy not clearly shown.

The predictability of response to diverse hormonal manipulation through use of an estrogen receptor determination has been summarized.<sup>5</sup> More detailed information has been published to indicate the response in estrogen receptor positive and negative patients pursuant to specific hormonal maneuvers, including hypophysectomy, adrenalectomy, additive hormonal therapy, hormonal withdrawal, therapeutic castration, and antiestrogen therapy. There is also published information relating sites of biopsy to the dominant site of disease and the response in estrogen receptor positive patients.<sup>6-14</sup> These data indicate estrogen receptor positive patients will respond to hormonal maneuvers approximately 60% of the time and estrogen receptor negative patients will respond  $\leq 5\%$  of the time. There is also a suggestion that estrogen receptor determinations performed on hepatic metastases, if positive, may not predict accurately for response to hormonal maneuvers.<sup>8</sup>

Since the appearance of these data in the professional literature (circa 1974-5), another steroid hormone receptor has been determined

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and has become generally available. This was first reported by Horowitz, *et al*, in 1975.<sup>15</sup> The presence of the progesterone receptor (PR) correlates well with the estrogen receptor and provides further selectivity of hormonal maneuvers within the estrogen receptor (ER) positive group of patients.<sup>16, 17</sup>

Since identification of the fact: response correlates with the presence/absence of ER/PR, certain ancillary controversies have arisen. Lippman and colleagues have reported a negative relationship between the ER positive state and response to cytotoxic chemotherapy.<sup>18</sup> This observation has been contested by others<sup>19-22</sup> and is not completely resolved. The estrogen receptor has also been correlated with a) more well differentiated tumor,<sup>23</sup> and b) prolonged disease free survival.<sup>24</sup>

#### IOWA SURVEY

In December, 1977, we surveyed the in-Iowa-but-geographically-dispersed readership of the Iowa Adult Cancer Newsletter; this covered the 60 subscribers known to manage patients with breast cancer. The survey results showed only 70% of physicians responding (n = 38) obtain ER or PR on patients with primary breast cancer 95-100% of the time; however, only 16% obtained ER/PR less than 50% of the time. The frequency of ER/PR determinations on metastatic lesions was much less. Management of patients who are ER negative or positive was quite heterogeneous. Sixty questionnaires were mailed and 38 replies received (63%). One individual did not respond to any of the questions since estrogen receptor and progesterone receptor were not part of care in his locale. This was due to a lack of facilities for the freezing of specimens.

The results of the questionnaire are summarized as follows:

*Question 1. Please estimate the frequency that you send tissue for ER/PR taken from patients with breast cancer for ER/PR.*

##### *A. Primary mastectomy tissue*

Twenty-six respondents (70%) obtain estrogen receptor or progesterone and estrogen receptor between 95-100% of the time. Only 16% obtain ER/PR less than 50% of the time. It is a clear consensus of national authorities in the treatment of breast cancer, as well as the group at the University of Iowa, that estrogen receptor should be obtained as a minimum on all patients undergoing primary mastectomy.

Certainly there are occasions when this is not possible. The patient with "minimal" breast cancer may not have sufficient material for performance of the assay. Nevertheless, an attempt should be made to obtain this parameter on the tissue without sacrificing material for histopathologic diagnosis.

*B. Rebiopsies* in patients who have not had a prior ER/PR determination, adrenalectomy or who have not had a *definite* prior response to endocrine treatment of their metastatic/recurrent breast cancer.

In contrast to practice with primary mastectomy tissue, only 43% of responding physicians obtained ER/PR between 95-100% of the time in patients where there was no indication of the hormonal status of the breast cancer. Thirty-two percent of the responding physicians would obtain this information in less than 50% of the patients under their care. There are suggestions that the determination of ER/PR may be more important in the metastatic/recurrent lesion than it is in the primary mastectomy tissue. It is known that receptor complement can change with the course of the disease, and if there is a substantial amount of time passed between the mastectomy and the treatment for the metastatic or recurrent carcinoma of the breast, this receptor complement could change. Certainly the high correlation seen with ER/PR positive patients in response to adrenalectomy at the University of Texas (San Antonio) suggests this may be the case in human mammary carcinoma (11 of 12 patients responding vs. only 3 of 8 responses to adrenalectomy who had positive ER and PR at the time of initial mastectomy). Thus, we recommend whenever possible this assay be performed in patients who have not had their endocrine status documented by objective response to prior endocrine therapy or a prior ER/PR determination on *metastatic* tissue. It is our practice to biopsy whatever lesion may be accessible and yet not associated with inordinate morbidity. Sites of biopsy recently performed at the University of Iowa have included rib resection, bone marrow biopsies, "mini" thoracotomy, "mini" laparotomy for liver biopsy, and of course, skin nodules and lymph nodes when accessible.

*Question 2. When a biopsy is obtained for ER/PR determination, do you always request histologic examination of the tissue to insure that it is breast cancer?*  
(Please turn to page 107)



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## USE OF ESTROGEN RECEPTOR DATA: RECOMMENDATIONS FOR IOWA

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(Continued from page 106)

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Eighty-nine percent of the respondents indicated that this was done in their practice. This is certainly appropriate since none of us have visual or tactile powers sufficiently accurate to make a tissue diagnosis equivalent on clinically involved lymph nodes or nodules. We must be certain the material we are biopsying does indeed contain breast cancer. Otherwise a negative value for estrogen or progesterone receptor would have virtually no meaning. Examples of false negatives would be suture granulomas, benign fibromas, reactive hyperplasia of lymph nodes, etc.

*Question 3. If the results of the ER assay are negative, do you ever perform any of the endocrine treatments which follow in spite of the negative test?*

Forty-seven percent of the respondents indicated they never perform any endocrine therapy in the face of a negative ER assay. Of the 14 physicians, or 38%, who indicated they perform endocrine therapy in spite of negative ER, the types of endocrine therapy administered were additive in nature (estrogens, androgens, progesterone, and glucocorticoid). Three responding physicians would submit a patient to adrenalectomy who was estrogen receptor negative. Although one can clearly envision circumstances where a physician may administer endocrine therapy of low morbidity to a patient who is estrogen receptor negative, it is difficult to justify adrenalectomy in these situations. One example where administration of additive therapy in an ER negative situation would be the patient who has failed on combination chemotherapy, including cytoxan, methotrexate, fluorouracil, and also adriamycin. Although there are investigational drugs for breast cancer in this type of patient, personal circumstances may indicate the patient would be better treated with the additive therapy even though the acknowledged response rate is less than 5% in most series. The acknowledged response rate in the aggregate series, however, to adrenalectomy is no greater than this. The morbidity of this procedure would not seem to be indicated in any circumstance where the patient is estrogen receptor negative and also known to be an endocrine non-responder. Four responding physicians

have noted "definite" responses to hormonal maneuvers in ER negative patients. It is difficult to assess this response rate since we did not ask for a definition of response in our questionnaire.

*Question 4. If the estrogen receptor was positive and the progesterone receptor negative, would you use endocrine treatment for metastatic breast cancer?*

Seventy-three percent indicated they would. In our opinion this response should be in the affirmative. Although preliminary data indicate the progesterone receptor may further increase the selectivity for hormonal manipulation in patients with metastatic disease, estrogen receptor positive and progesterone receptor negative patients still maintain approximately a 50% chance of an objective response.

*Question 5. In estrogen receptor positive patients with recurrent/metastatic breast cancer, which do you use first — chemotherapy, endocrine treatment, both or variable?*

Eight percent indicated that chemotherapy would be first, 38% indicated they would use endocrine treatment first, 3% would use both, and 41% variable. It is our belief that, considering the present state of the art, the decision on first therapy in ER positive patients should depend on the clinical situation. It is advocated that patients who have life threatening organ dysfunction, i.e., rapidly progressive pulmonary metastases with impaired oxygenation, massive liver involvement with hepatic dysfunction, etc., should be treated with an aggressive chemotherapeutic program first. If the patient does not have such rapidly progressive organ dysfunction, then additive or ablative or more recently, antihormonal therapy is initiated as the first maneuver.

*Question 6. If a patient is ER positive and has large filling defects on liver scan or has known liver metastases by other means, would you treat with endocrine additive therapy, endocrine antagonistic therapy, endocrine ablative therapy, or there is not a rational basis for making this determination?*

Forty-one percent of the responding physicians indicated that they would employ one of the endocrine maneuvers. Fifty-six percent indicated there was not a rational basis for making this determination. We would have to concur with the 56% majority. It is well known that easily detectable liver involvement is a highly negative discriminate in selection of patients for hormonal manipulation (particularly

adrenalectomy) whose estrogen receptor status is unknown. These data come from the series published prior to the utilization of receptor complement in guiding treatment for breast cancer. What is not clear is whether the fact that the patient is estrogen/progesterone receptor positive outweighs the negativity of the liver involvement. It can be conjectured that patients who have massive liver involvement may have either lost their receptor complement in the metastases to the liver or that the entire body burden of tumor has become estrogen receptor negative since the performance of the determination. It is also possible there are sufficiently few patients with massive liver involvement who are ER/PR positive that a high percentage of these patients will respond and still be consistent with the approximately 11% overall response rate for all breast cancer patients subjected to adrenalectomy for liver metastases. Data are insufficient at the present time to answer this question.

#### COMMITTEE RECOMMENDATIONS

The preceding considerations indicate a new technology evolved in the early 1970's and was clearly articulated in the clinical literature by 1974-75. Awareness of the general medical community has apparently lagged to some extent based on the preliminary survey in December, 1977.

The Committee on Oncology of the Iowa Medical Society has, after deliberation, arrived at the following recommendations for the utilization of estrogen receptors/progesterone receptors.

1. Estrogen receptor, and preferably, estrogen receptor plus progesterone receptor, should be obtained in each patient undergoing mastectomy for carcinoma of the breast.

2. Patients who undergo excisional biopsy prior to radiation therapy for primary carcinoma of the breast should have estrogen receptor performed, and preferably, estrogen receptor plus progesterone receptor.

3. If pathologic confirmation is obtained at the time of suspected first recurrence after mastectomy or radiation therapy treatment for carcinoma of the breast, this tissue should also be submitted for estrogen receptor, and preferably, estrogen receptor plus progesterone receptor determination.

4. Each specimen submitted for estrogen re-

ceptor and/or progesterone receptor determination should also be submitted for pathologic confirmation of the malignant nature of the lesion. A portion of the tissue should be used for frozen section diagnosis and approximately one gram (if possible) of tumor, which is not necrotic, should be trimmed of all fat and frozen immediately in the cryostat. After confirmation of the diagnosis on the frozen section the tissue should be immediately placed in liquid nitrogen or dry ice at minus 70° C, and maintained at that temperature.

5. Since most of these assays are performed by reference laboratories, it should be the responsibility of the pathology laboratory to insure there is sufficient freezing material to maintain this temperature until it reaches its destination.

6. Patients who are estrogen receptor positive should ordinarily have hormonal therapy selected (either additive or ablative) as the first treatment maneuver for recurrent carcinoma of the breast.

7. Adrenalectomy and hypophysectomy should not be performed in patients who do not have estrogen receptor positivity or who have not had a documented objective response to prior hormonal maneuvers.

8. Patients with life threatening disability from metastatic carcinoma of the breast are possible exceptions to the requirement that the first treatment maneuver for estrogen receptor positive patients be hormonal (i.e., patients with massive hepatic metastases or life threatening pulmonary disability might be treated with combination chemotherapy).

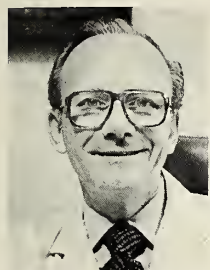
9. Patients with isolated or painful bony areas may benefit from local radiation therapy and/or orthopedic stabilization in addition to systemic maneuvers as appropriate based on the estrogen receptor. It is possible these radiotherapeutic or orthopedic maneuvers should be carried out as the first maneuver and the systemic therapy delayed until practicable, based on hematologic or other considerations.

It is hoped these recommendations and the background material will assist those physicians engaged in the management of patients with carcinoma of the female breast.

#### REFERENCES

The references contained in this paper are available on request either from the authors or from the JOURNAL OF THE IOWA MEDICAL SOCIETY.





## COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### INTERFERON

The National Cancer Institute expects to contract for production of 50 billion units each of the three main types of interferon—leukocyte, fibroblast and lymphoblastoid. Congress has provided a \$13.5 million budget supplement to the National Cancer Institute, and \$6-7 million of this is to be used to study the clinical status of "biological-response modifiers." Naturally, pharmaceutical companies will be competing for contracts to produce interferon. Despite large scale production efforts, the product will

remain in short supply for several years. Interferon is extremely expensive and difficult to obtain. Recent research, however, suggests that physicians may be able some day to use newly developed compounds to stimulate the body's natural defenses against cancer and many viral diseases.

Interferon is produced by cells when they are invaded by viruses. It does not aid the invaded cells, but is distributed to other cells and stimulates them to produce a substance that prevents the virus from reproducing. Interferon also inhibits the division of certain kinds of cancer cells. Clinical trials have shown that interferon harvested from human cell cultures is effective against the viruses that cause herpes zoster and type B hepatitis. There is indication that future therapy with interferon may be effective against various respiratory and gastrointestinal viruses as well as herpes, and perhaps certain viral encephalitis.

In time it may be possible to administer a very simple and inexpensive type of pyrimidine to stimulate interferon production within the body. Earlier research with pyrimidines was more effective with rodents than higher animals. However, the newer pyrimidine compounds are more effective and less nephro-toxic. We are in the early stages of investigation, but the possibilities are very exciting. — M.E.A.

### LEE FORREST HILL, M.D. (1894-1980)

Dr. Hill was the true personification of the young man who went West and became a success in his profession. The move by Dr. Hill to Des Moines in 1921 from New Hampshire was a gain to Iowa that is immeasurable by any dimension. Honors to Dr. Hill have been many and significant. His devotion to his family, his patients and to his students was of magnitude

that words cannot adequately describe. If a young physician demonstrated little interest in pediatrics before meeting Dr. Hill, it was a safe bet he could quickly arouse an interest in his junior colleague. The ability to stimulate interest and enthusiasm was a compelling characteristic of this great pediatrician.

I am proud to have been one of Dr. Hill's residents; I am proud to have followed in his footsteps as scientific editor of this JOURNAL. Lee Hill was a man of distinction. He had a warm dignity and humility that will continue as an inspiration to all who were fortunate enough to know him. — M.E.A.



## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

### MEDICAL SCHOOL ADMISSIONS DATA

I recently saw some information about applicants to medical schools for the 1978-79 entering class. The data was assembled by the Association of American Medical Colleges from information provided by all the U. S. allopathic medical schools. Since you perhaps have occasion to answer questions about enrollment from young people in your community (maybe even your own family) or like to talk about these matters with your colleague physicians, let me share some of the information with you.

Because students applying for entry into the 1978-79 class submitted applications approximately 9 to 12 months in advance of that date, these data thus represent applications submitted about two and one-half years ago. I'd like to give more recent data, but this is as recent as is available. One hundred twenty-five medical schools were represented and the total number of applicants was 36,636. Each of them submitted an application to an average of 9.17 schools. A total of 16,527 students was ultimately accepted, an acceptance rate of 45.1%, or 2.2 applicants for each acceptance. Not all of the accepted students actually enrolled, so the final number of matriculants was 16,054. This number of applicants represents a continuing decrease in the applicant pool. The number has been declining gradually from a 1974-75 high of

42,624, and is likely to decrease still further.

During those years (1974-78) the percentage of women applicants rose from 20.4% to 26.1% and the percent of women applicants who were accepted also rose — from 38.9% to 43%, while the corresponding percentage of male applicants who were accepted rose from 34.4% to 45.6%.

During those years the percent of all applicants who were members of minority groups under-represented in American medicine rose gradually from 7.4% to 9.1%, but the percent they represent among all acceptees has decreased gradually from 9.3% to 8.2%. In this latest year 40.9% of the minority group applicants were accepted.

The grade-point average for the national 1978-79 entering class was 3.32 — a pretty clear indication that a straight A average is not necessary for acceptance into medical school, even in this time of relative grade inflation. That total grade-point average was based upon a science course grade-point average of 3.25 and a non-science grade-point average of 3.40.

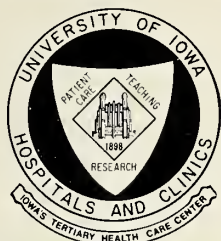
The average scores for men on the new Medical College Admissions Test slightly exceeded those attained by women on all except the reading skills subtest. Caucasians were consistently higher in their mean scores than were members of the under-represented minority groups.

A characteristic that has impressed and distressed me over the years about pre-medical students is their tendency to seek information about medical schools, their rules and admission behavior, from other students and occasional faculty members or student advisors who themselves often don't really know what it's all about. I urge anyone with questions about this process to seek information from the horse's *mouth*. Much interesting data can be obtained from a book called "Medical School Admissions Requirements 1980-81," which can be purchased for \$5 (\$6.50 first class mail rate) from the Association of American Medical Colleges, One Dupont Circle, N.W., Washington, D.C. 20036. Certainly, anyone who might be interested in attending medical school at The University of Iowa could call staff members (319/353-7353) who are accurately informed and willing to answer questions about our requirements and procedures, and to offer suggestions.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.



# DRUG THERAPY REVIEW



## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

*Editor's Note — In recent years knowledge about rational drug therapy has expanded significantly. This series of articles will provide the practicing physician with concise, topical reviews of drug therapy.*

### THE RATIONAL USE OF ALBUMIN

Among the many expensive therapeutic agents currently marketed are albumin and plasma protein fraction (hereafter referred to as albumin). It has been reported that albumin products alone account for about 10% of drug budgets in hospitals.<sup>1, 2</sup> Albumin use has been increasing rapidly in recent years<sup>3</sup> and is probably a factor contributing to the rising cost of medical care.<sup>4</sup>

Those interested in controlling medical costs and improving the quality of care are concerned that this expensive agent is being used on "questionable physiologic grounds."<sup>4</sup> This concern led to a workshop in 1975 sponsored jointly by the National Heart and Lung Institute and the Food and Drug Administration to discuss directions of future research and to formulate guidelines for the appropriate use of plasma protein solutions. Guidelines resulting

from this workshop have recently been published.<sup>5</sup>

In 1977, the drug utilization review (DUR) committee at the Iowa City Veteran's Administration Medical Center (VAH) adapted the general guidelines reported by Tullis<sup>5</sup> into criteria appropriate for adult patients at the VAH and more applicable to a DUR process (Table 1).<sup>6</sup> The DUR committee included members of the departments of pharmacy, clinical pharmacology, surgery and medicine of the University of Iowa Colleges of Medicine and Pharmacy. Several legitimate uses of albumin were not included because they were not current practices at the VAH (e.g., pump priming for cardiopulmonary bypass).

In the review of albumin use at VAH, all patients who received albumin over a three-month period of time were included.<sup>6</sup> All cases which were judged to be appropriate by the independent evaluator were accepted as such. However, charts were reviewed by the committee in those cases where use was judged inappropriate by the independent evaluator. In this manner, maximum weight was attached to the evaluator's decision for appropriate use.

TABLE I  
INDICATIONS FOR USE OF PROTEIN SOLUTIONS IN ADULTS

Criteria	Conditions
Shock*	(1) due to blood loss (2) BP < 80 mmHg systolic and/or CVP < 6 mmHg (3) administered within first 2 hours after the blood loss (4) at least one liter of crystalloid solution administered between time of diagnosis and administration of albumin solution
Burns*	(1) involve more than 10% body surface area (2) second or third degree burns present (3) administered more than 24 hours after burn
Retroperitoneal Surgery	— aortic aneurysm, vascular graft in abdomen, thoracic duct rupture or transection, or any other procedure involving retroperitoneal dissection
Adult Respiratory Distress Syndrome	— on respirator
Ascites	— more than 1.5 liter of ascitic fluid removed or lost
Peritonitis	

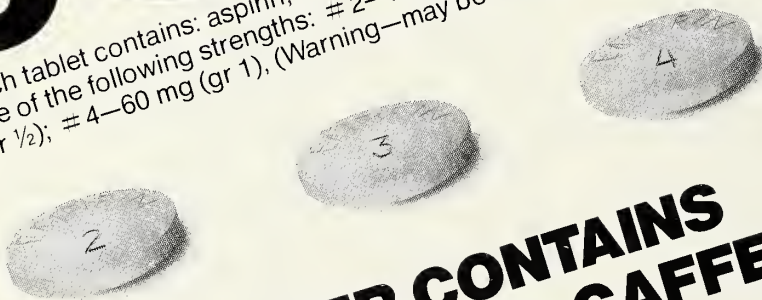
\* All conditions must be met.

(Please turn to page 113)

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

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## DRUG THERAPY REVIEW

(Continued from page 111)

It was found that of 861 units administered, 91% were given to surgical patients. Forty-one per cent of all units were determined to be used inappropriately. Surgery and medical services, respectively, prescribed 42% and 34% inappropriately. Seventy-one per cent of 65 surgery patients and 43% of 14 medical patients received the protein solutions inappropriately.

The total cost of albumin solutions used over the 3-month period of time was \$25,400. This is a projected annual rate of \$101,600 which is compatible with previous usage rates. The purchase price of 50 ml of 25% albumin and 250 ml of 5% plasma protein fraction (the only products in use at the VAH) was \$29.50 per unit for both agents during the study period (1977). Both presently are more expensive. The projected yearly cost of inappropriately used albumin at the VAH was \$41,656.

Some may feel the criteria used in this study<sup>6</sup> are too restrictive, although others have stated that they are too liberal (e.g., adult respiratory distress syndrome). The criteria did, however, reflect the practices and recommendations of qualified representatives of both surgical and medical departments of the VAH, and the University of Iowa Colleges of Medicine and Pharmacy.

It is apparent from these and other data<sup>3</sup> that plasma protein products are frequently used

inappropriately. There are probably no patients who require only one or two bottles of albumin,<sup>1</sup> although this was the case for 28 patients in the study. Also, orders frequently were written for continuous daily albumin without any indication in the medical records that the patient's need for this expensive product was continuously being assessed.

In the absence of well-conducted clinical trials, the practitioner should consult locally derived criteria and weigh the potential benefit to the patient against cost before prescribing albumin preparations. Also, orders should be reviewed daily for a continual assessment of the patient's needs. It is particularly important during this time of rapidly rising prices and publicity concerning the cost of medical care that we use expensive drugs more judiciously.

— MICHAEL R. ALEXANDER, *Clinical Assistant Professor of Pharmacy, Clinical Pharmacy Coordinator, Iowa City VA Hospital*, and REYNOLD SPECTOR, M.D., *Professor of Medicine and Pharmacology, University of Iowa Hospitals and Clinics*

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## SCREENING FOR CHILDREN

Significant changes in the EPSDT screening program for Medicaid eligible children under 21 years of age were instigated last October. The State Department of Social Services has changed its screening schedule to coincide more closely with standard well baby care. This way most well child screening can be billed and paid as a screening. Billings for screenings are permitted as follows:

Child's Age	Number of Screenings That Are Payable	Approximate Recommended Ages for Screening
0 to 12 months	4	2, 4, 6 and 9 months
13 months to 24 months	2	15 and 18 months
25 months to 36 months	1	30 months

37 months to 48 months	1	42 months
4 years to 6 years	1	5 years or preschool
6 years to 9 years	1	8 years
9 years to 13 years	1	12 years
13 years to 17 years	1	14 years
17 years to 21 years	1	18 years

A complete screening exam, according to the DSS, must include at least: (1) medical history (or update of history) including developmental history; (2) complete unclothed physical inspection; (3) the following as appropriate to the child's age — vision screening, hearing screening, dental inspection (3-year olds and up must be referred), developmental assessment, height/weight; (4) lab tests as appropriate; and (5) immunization assessment.

Screenings must be billed on the Title XIX, SCR-1 form.

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before treatment. If an allergic reaction occurs, discontinue the drug and treat with the usual agents (e.g., epinephrine or other pressor amines, antihistamines, or corticosteroids).

**Precautions:** Use with caution in individuals with histories of significant allergies and/or asthma. Do not rely on oral administration in patients with severe illness, nausea, vomiting, gastric dilatation, cardiospasm, or intestinal hypermotility. Occasional patients will not absorb therapeutic amounts given orally. In streptococcal infections, treat until the organism is eliminated (minimum of ten days). With prolonged use, nonsusceptible organisms, including fungi, may overgrow; treat superinfection appropriately.

**Adverse Reactions:** Hypersensitivity, including fatal anaphylaxis. Nausea, vomiting, epigastric distress, diarrhea, and black, hairy tongue. Skin eruptions, urticaria, reactions resembling serum sickness (including chills, edema, arthralgia, prostration), laryngeal edema, fever, and eosinophilia. Infrequent hemolytic anemia, leukopenia, thrombocytopenia, neuropathy, and nephropathy, usually with high doses of parenteral penicillin.

(102175)

**\*Equivalent to penicillin V.**

*Additional information available to the profession on request.*



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# STATE DEPARTMENT/ PUBLIC HEALTH

## RABIES IN IOWA ANIMALS

During 1979, rabies increased dramatically in animals. A total of 197 cases were reported from the 2 laboratories performing exam-

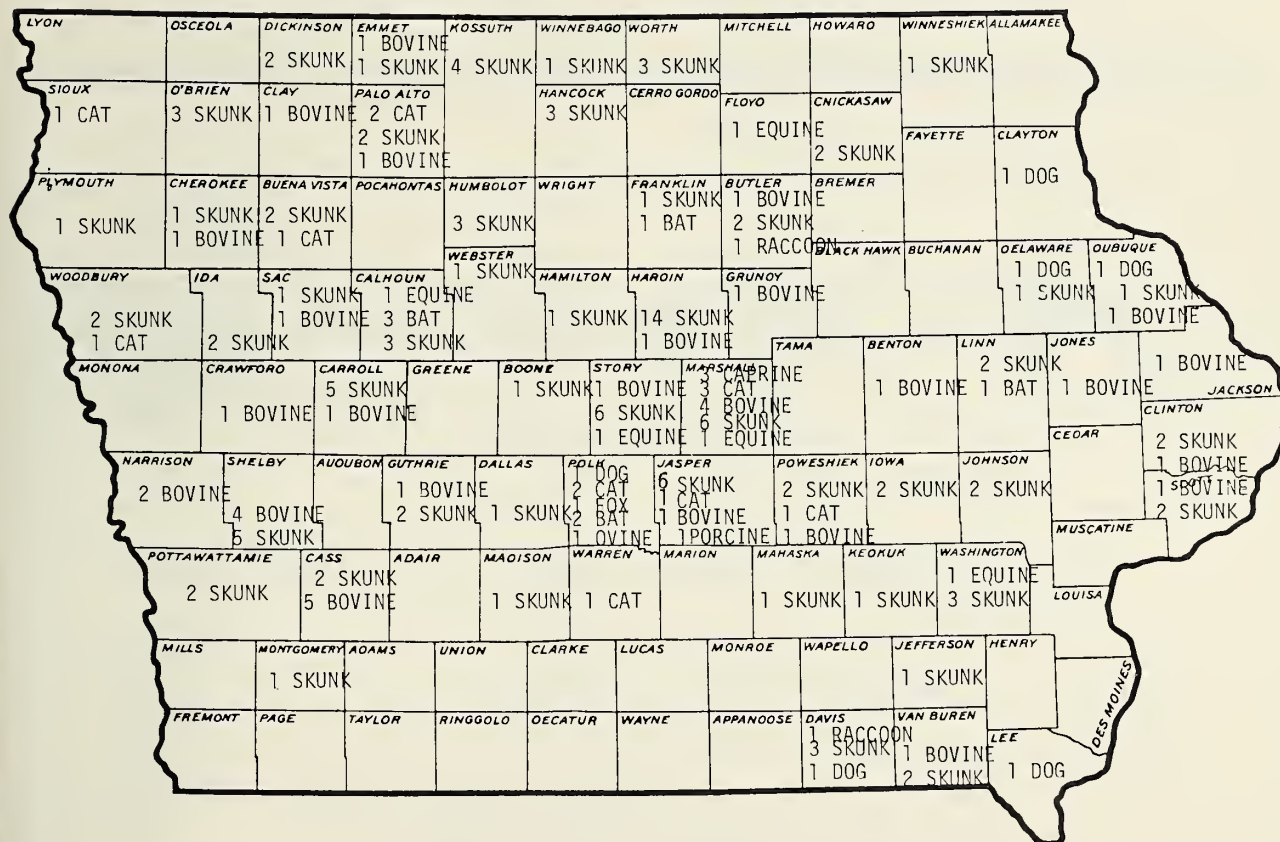
inations — University Hygienic Laboratory, Iowa City, Iowa and Veterinary Diagnostic Laboratory, Ames, Iowa. This represents a 25% increase over 1978 and reflects a continuing cyclic increase in cases each year since 1975.

Geographically, cases appear to be concentrated in a contiguous area represented by 5 counties in central Iowa: Hardin, Story, Marshall, Polk and Jasper. Skunks were the predominant species involved with significant transmission to domestic animals in central Iowa — as well as other areas. Interestingly, 3 goats were involved from one premise in Marshall County and one sheep (ram) from Polk County, underscoring the fact that all warm blooded species are susceptible to this fatal virus infection.

The increase in animal rabies probably accounted for an increase in serious human ex-

(Please turn to page 116)

REPORTED CASES\* OF RABIES IN ANIMALS IN IOWA IN 1979  
COUNTY DISTRIBUTION BY SPECIES



Species Cases — Skunk, 122; Bovine, 35; Feline, 13; Canine, 6; Equine, 5; Caprine, 3; Bat, 8; Raccoon, 2; Fox, 1; Porcine, 1; and Ovine, 1. Total — 197.

\* Reported by University Hygienic Laboratory, Iowa City, and Veterinary Diagnostic Laboratory, Ames.

## STATE DEPARTMENT/PUBLIC HEALTH

(Continued from page 115)

posures. During 1979, the Department of Health consulted on 353 incidents, of which 207 received treatment (compared to 265 and 146 respectively during 1978). Of those exposed, 28 were in the high risk category, i.e., received a penetrating bite by a known rabid animal, specifically 3 skunks, 1 raccoon, 1 bat, 2 dogs and 11 cats (multiple exposures). The absence of human rabies infection in this group underscores the efficacy of treatment with duck embryo vaccine and human rabies immune globulin. Also, these figures show that while most animal rabies occur in wild species, more serious human incidents result from domestic animal interaction where exposure is more frequent. This observation supports the importance of routine vaccination of cats, which is recommended, and vaccination of dogs, which is required by state law.

The approaching spring and summer mark the time of year when people, especially youngsters, have bite encounters with a variety of animal species. The question of rabies prophylaxis and proper follow-up management of the offending animal are of immediate concern. A few noteworthy facts to keep in mind are as follows:

1. Bites of rabbits, squirrels, hamsters, guinea pigs, gerbils, chipmunks, rats, mice, and other rodents have never resulted in human rabies in the United States and almost never call for antirabies prophylaxis.

2. Bites by other wild animals, especially skunks, raccoons, and foxes, should be considered as being of high risk of having rabies.

3. Quarantine measures should be limited to cats and dogs; wild animals should be euthanized and submitted for laboratory examination without observation.

4. If an animal escapes, there is *no safe period of delaying treatment!!* Circumstances should be reviewed immediately concerning the advisability of treatment.

5. Immediate cleansing of the bite wound with soap and water is very effective in reducing the risk of transmission and is equally as important as post exposure antirabies therapy.

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

## January 1980 Morbidity Report

Disease	Jan. 1980 Total	1980 to Date	1979 to Date	Most Jan. Cases Reported From These Counties
Amebiasis	0	0	7	—
Brucellasis	0	0	1	—
Chickenpox	1106	1106	970	Scattered
Cytomegalovirus	1	1	1	Dubuque
Eaton's Agent infection	1	1	8	Palk
Encephalitis, viral	3	3	2	Allamakee, Iowa
Erythema infectiosum	1	1	13	Franklin
Gastroenteritis (GIV)	1667	1667	1071	Scattered
Giardiasis	1	1	6	Fayette
Hepatitis, A	7	7	19	Dubuque, Palk, Tama
Hepatitis, B	8	8	6	Palk
type unspecified	6	6	1	Palk
Herpes simplex	9	9	3	Jahnsen
Herpes Zoster	0	0	0	—
Histoplasmosis	1	1	0	Dubuque
Infectious mononucleosis	22	22	32	Scattered
Influenza, lab confirmed	0	0	0	—
Influenza-like illness (URI)	4482	4482	4558	Scattered
Meningitis				
aseptic	4	4	10	Clinton, Delaware
bacterial	9	9	14	Appanaase, Calhoun
meningococcal	0	0	2	—
Mumps	8	8	1	Black Hawk, Dallas
Pertussis	0	0	0	—
Rabies in animals	24	24	15	Scattered
Rheumatic fever	0	0	1	—
Rubella (German measles)	0	0	0	—
Rubeola (measles)	1	1	0	—
Salmonella	9	9	8	Black Hawk, Boone
Shigella	7	7	7	Palk, Scott
Tuberculosis				
tuberc. ill	5	5	11	Linn, Paweshiek
bact. pos.	4	4	11	Linn, Paweshiek
Venereal diseases:				
Gonorrhea	423	423	462	Scattered
P. & S. Syphilis	1	1	3	Warren

Laboratory Virus Diagnosis Without Specified Clinical Syndrome: Scarlet Fever — 6, Palk, Dubuque; Echavirus — 2, Dubuque, Des Moines; Campylobacter — 2, Dubuque.



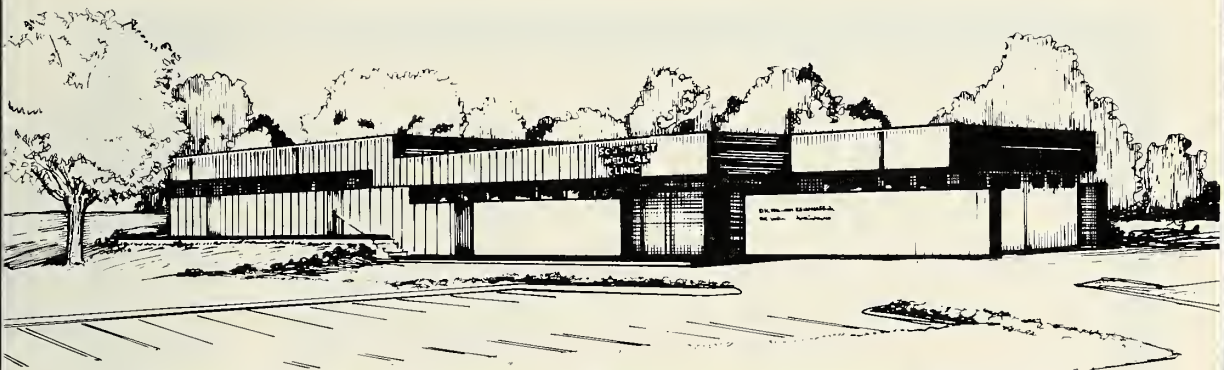
## ABOUT IOWA PHYSICIANS

**Dr. Werner Pelz**, Charles City, recently retired from medical practice. Dr. Pelz received the M.D. degree in Bern, Switzerland, and located in Charles City in 1950. In retirement, he plans to assist the Indian Health Service in the United States when needed and occasionally fill in for physicians at his former office. . . . **Dr. Robert L. Rodnitzky**, vice chairman, Department of Neurology, U. of I. College of Medicine, was guest speaker at a recent Keokuk Area Hospital program on neurological diseases. . . . At annual meeting of the Clin-

ton County Medical Society, **Dr. Robert German** was elected president; **Dr. Grey M. Woodman**, vice president; and **Dr. Alfonso Torres**, secretary-treasurer. All are Clinton physicians.

**Dr. Stephen C. Elliott**, Department of Pediatric Education, Iowa Methodist Medical Center, Des Moines, has received the Ludwig F. Guldner Memorial Grant for Cancer Research from the American Cancer Society in support of a program entitled, "The Leukocyte Adherence Inhibition Test: A Study of the Clinical Uses and Mechanism of the Test."

**Dr. William E. Kettelkamp** is 1980 president of the St. Luke's Methodist Hospital medical staff in Cedar Rapids. Other officers are — **Dr. Kingsley B. Grant**, vice president/president-elect; and **Dr. Mark J. Tyler**, secretary-treasurer. All are Cedar Rapids physicians. . . . **Dr. Mark C. Pinkerton** has joined the Jennie Edmundson Hospital Emergency Room staff in Council Bluffs. Dr. Pinkerton received the



## WHY FIGHT THE CROWD?

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M.D. degree at the University of Nebraska Medical Center and interned at Kerm Medical Center in Bakersfield, California. . . . **Dr. Thomas J. Kafka** has joined **Drs. Peter Kepros, F. L. Klinge, Jr., Dean Nierling and Robert Railey** in family practice in Cresco. Dr. Kafka received the M.D. degree at the University of Minnesota School of Medicine and interned in Santa Barbara, California. For the past two years he has been practicing in Virginia. . . . **Dr. Lester Beachy** has been elected president of the Polk County Medical Society; **Dr. Claude Koons**, president-elect; **Dr. John Bardole**, secretary-treasurer; **Drs. John Gay and Douglas Dorner**, trustees; and **Dr. Edward Hertko**, councilor. All are Des Moines physicians. . . . **Dr. Patrick A. Tranmer** will join the Muscatine Health Center staff in August. A Cedar Rapids native, Dr. Tranmer received the M.D. degree at U. of I. College of Medicine and is currently chief family practice resident at Broadlawns Hospital in Des Moines.

**Dr. Paul L. Rohlf**, Davenport, has been named president of the Scott County Medical Society; **Dr. Alan Swearingen**, Bettendorf, president-elect; **Dr. Marvin Collentine**, Davenport, sec-

retary, and **Dr. Dan Bovenmyer**, Davenport, treasurer. . . . **Dr. George West**, Mason City, was guest speaker at a recent meeting of the North Iowa Area Diabetes Association. . . . **Dr. Dallas O. Minchin**, Council Bluffs, has been named chairman of the Council Bluffs Board of Health. . . . At a recent meeting of the Dubuque County Medical Society, **Dr. Robert T. Melgaard** was named president; **Dr. Robert Orvis**, vice president and president-elect; **Dr. Les Werner**, secretary, and **Dr. Thomas Edmonds**, treasurer. All are Dubuque physicians. . . . **Dr. Erling Larson**, Davenport, was elected recently to a three-year term on the Board of Directors of Citizens Federal Savings and Loan Association in Davenport. . . . Governor Robert Ray has reappointed **Dr. Albert Cram**, Iowa City, to the Iowa Emergency Medical Service Advisory Council. . . . **Dr. M. A. Afridi**, Waterloo, has been appointed part-time medical director of the Cedar Valley Mental Health Center, serving Bremer, Butler and Chickasaw counties. Dr. Afridi is associated with the Northeastern Psychiatric Clinic in Waterloo, and has provided consultative medical services to CVMHC for the past four years.

(Please turn to page 120)

★

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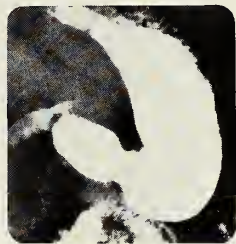
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In this double-blind study, twenty patients having G.I. series and exhibiting spasm were randomly selected to receive either 2 cc. of Bentyl or sodium chloride intramuscularly. Ten minutes after the injection another radiograph was taken . . .

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Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

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\*This drug has been classified "probably" effective in treating functional bowel/irritable bowel syndrome.

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

#### Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med. 5:356-358, 1964.

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Brief Summary

## INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

**CONTRAINDICATIONS:** Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloro-duodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis. **WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with: Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

**Usual Dosage:** Bentyl 10 mg. capsule and syrup: *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg.: *Adults:* 1 tablet three or four times daily. Bentyl Injection: *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only. NOT FOR INTRAVENOUS USE. **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of October, 1978.

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## DEATHS

**Dr. Lee Forrest Hill, 85,** died January 12 at the Iowa Jewish Home in Des Moines. Dr. Hill received his medical education at Harvard University Medical School. He began practicing medicine in Des Moines in 1921, retiring in 1977. A life member of the Iowa Medical Society, Dr. Hill was also a charter member and past president of the American Academy of Pediatrics; and had served as president and secretary of the American Board of Pediatrics. He was scientific editor of the JOURNAL OF THE IOWA MEDICAL SOCIETY for eight years.

**Dr. Maynard L. Jones, 57,** Colfax, died January 18 at Mercy Medical Center in Des Moines. Dr. Colfax received the M.D. degree at U. of I. College of Medicine. While serving with the Army Air Force during World War II, Dr. Jones was shot down over Cologne, Germany, and held prisoner. In 1979, he was chosen Outstanding Colfax Citizen by the Colfax Kiwanis Club. He served on the Colfax Board of Education for 18 years.

**Dr. Clement A. Sones, 84,** Des Moines physician for 56 years, died January 28 at a Mayo Clinic hospital in Rochester, Minnesota. Dr. Sones received the M.D. degree at U. of I. College of Medicine and interned at Iowa Methodist Hospital in Des Moines. He was a former chief of staff at Iowa Methodist Medical Center; past president of the Polk County Medical Society and life member of the Iowa Medical Society.

**Dr. Donald C. Sharpe, Dubuque, 68,** died January 26 in Las Vegas, Nevada, where he was vacationing. Dr. Sharpe received the M.D. degree at Northwestern School of Medicine. He entered private practice of obstetrics and gynecology in Dubuque in 1963. A past president of the Dubuque County Medical Society, Dr. Sharpe was on the staff of St. JEPH'S Unit of Mercy Health Center and Finley and Xavier Hospitals.

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# JOURNAL OF THE IOWA medical SOCIETY

APRIL 1980 / VOLUME 70 NUMBER 4

## UNIVERSITY ISSUE

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**ABOUT THE COVER** — Remember those days in medical school. The process goes on. University of Iowa medical students begin their medical education with a strong grounding in the basic sciences. On the cover is microbiology lab session where freshmen are attempting to isolate and identify a pathogen from a simulated clinical specimen.



## PRESIDENT'S PRIVILEGE

---

**T**HIS ISSUE of the JOURNAL is devoted to College of Medicine matters with a progress report from Dean Eckstein on medical education in Iowa over the past 10 years. He cites the trend toward development of a better balance between primary care and other specialty training. He also notes the decentralization trend with more undergraduate and graduate training assigned to community-based programs.

Inherent in these changes has been a shift of clinical training from the "charity" patient to the "private" patient. This has required integration of the student physician into the mainstream of medical practice in both university and community hospital settings. The days of poorly supervised medical students and residents providing patient care in public hospitals are all but gone. Associated with this has been a recognition of the important need for practical experience to develop clinical skills. Medical education by necessity has thus become more involved with the practicing community, a relationship that can be expected to become even greater in the future. 30,000 medical students and 65,000 residents are currently training in clinical settings, a ratio of one trainee to 4 or 5 practicing physicians.

To interpose a resident or student between a physician and his patient takes a great deal of

skill if (1) the trainee is to have a learning experience, (2) the physician is to maintain a personal and identifiable role in the care of the patient, and (3) the rights and dignity of the patient are to be preserved. But this is what clinical teaching is all about. And whether it is the full time clinical practice of the faculty at University Hospitals or part-time teaching as a preceptor in a solo practice, the same level of propriety and finesse are needed.

Such a system is fragile and highly dependent on cooperation, good taste, and, most of all, on dedication by the physician to make it work. Its success in Iowa is largely the result of a highly motivated full and part-time faculty that is committed to the teaching of medicine.

Trends over the last 10 years have brought medical education and the practicing community closer together than they have been in over a century. This is a relationship that must continue if we are to keep the profession renewed with young physicians who are prepared to cope with the art and science of modern medicine at its advanced level.

*Paul M. Seebohm M.D.*

Paul M. Seebohm, M.D.



# VOX DOCS

At the bottom of the page is this month's Vox Docs question. Please answer it and send to IMS JOURNAL, 1001 Grand Avenue, West Des Moines, Iowa 50265. Last month's question and answer results are shown to the right along with several of the comments we received.

"Reductions in admissions and lengths of stay with a resulting shift to outpatient care are long overdue for many illnesses." — R. T. Guthrie, M.D., Waterloo

"There has been a dramatic change in our area because of honest, forthright utilization review." — Larry W. Goetz, M.D., Creston

"Admissions have not changed dramatically but inpatient days and length of stay have. Outpatient services have increased because patients are forced out of the hospitals much sooner." — W. G. Dennert, M.D., Boone

"I believe it's due to a more sophisticated and indepth utilization review program which both staff and patient have learned to accept. I also feel the dramatic reduction will change as the end point in review is approached so disappointment in flattening of the curve should be avoided." — Kenneth E. Lister, M.D., Ottumwa

Have there been "dramatic reductions" in hospital inpatient days, hospital admissions and hospital lengths of stays in your locale this past decade — with a corresponding "sizable increase" in outpatient services — as reported by National Blue Cross and Blue Shield?

IT'S HAPPENED IN OUR  
LOCALE

64%

NO, THIS ISN'T THE  
TREND HERE

36%

"Hospital admissions difficult, bed vacancies tight. There is no increase in outpatient care over previous 10 years." — John Uchiyama, M.D., Des Moines

"I don't see a "dramatic" change. Lengths of stay have decreased, but moderately. I never saw much overuse of the hospital." — S. R. Helmers, M.D., Sibley

"1968-817 days/1000 — 1978-700 days/1000. This is a reduction of about 15%. Also outpatient has increased from 7,000 patients in 1968 to 65,000 patients in 1978. This is from western Iowa and South Dakota Blue Cross." — James E. Reeder, M.D., Sioux City

## APRIL QUESTION FOR IOWA PHYSICIANS

We call this April issue the University issue. We offer a brief status report on the College of Medicine and University Hospitals. In this regard, as you look back, which of the below had the greatest impact on your medical education?

☐ The Teachers

☐ The Curriculum

☐ Can't Separate

Comment, please: \_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

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(Please Send to IMS JOURNAL, 1001 Grand Avenue, West Des Moines, Iowa 50265)

# Decade of Change

JOHN W. ECKSTEIN, M.D.

Iowa City, Iowa

TEN YEARS AGO, several months after I assumed the deanship of the University of Iowa College of Medicine, the JOURNAL gave over several pages to the hopes my colleagues and I had for the years immediately ahead. Now the end of the decade suggests the desirability — *indeed, the obligation* — to report on the status of the College in several important areas.

In the spring of 1970, many members of the Iowa medical establishment perceived the College's chief obligation to be the guiding of many more of its 120 graduating seniors into general practice, where they could help make medical care more accessible to Iowa people and ease the burdens of solo practitioners throughout the state. To many members of the state legislature, the College's principal obligations were to turn out greater numbers of doctors overall, and to keep more of them in Iowa to practice in rural communities. In the mind of the federal establishment, the need was for more physicians who would work in medically underserved ghettos and rural areas, with emphasis on primary medical care. Among many advisors to medical education — some of them self-anointed — there seemed to be an unarticulated attitude that these objectives were not compatible with research, graduate education, residency training and the strong programs of scholarship that good universities traditionally seek to develop.

---

Dr. Eckstein is Dean of The University of Iowa College of Medicine. His remarks here highlight the first decade of his service in this position.

---

*All of the years in the second century of the U. of I. College of Medicine have been under the deanship of John W. Eckstein, M.D. In the decade just ended there's been dramatic growth in numbers of people and programs — in response to needs perceived by many. And throughout, the element of quality has been uppermost.*

---

We recognized and understood these various perceptions, we believed them to be important, and we felt we must try to achieve the principal objectives of the perceivers. We asked ourselves how we could respond to the various social needs while maintaining the quality and substance of the academic programs so critical to long-range progress in medicine — the programs which yield the teachers for future generations of doctors, and the researchers who will point the way toward solutions for problems still plaguing the keenest medical minds of today.

## SUPPORT FOR NEW DIRECTIONS

In the midst of many uncertainties, several things were crystal-clear as we moved into the 1970s: we would need enthusiastic support from many different directions, and we would have to develop some completely new mechanisms for instruction, and for relating to the practitioners and hospitals of Iowa.

*How far have we progressed over the past 10 years?*

The enrollment growth to which we were by then committed has materialized, with 700 medical students enrolled today compared to some 480 then. The number of graduates remaining in Iowa for residency training has increased from 7% to about 30%. Among the



nearly 600 individuals taking specialty training in Iowa today there is a 50-50 balance between residencies in primary care areas and training in other specialties.

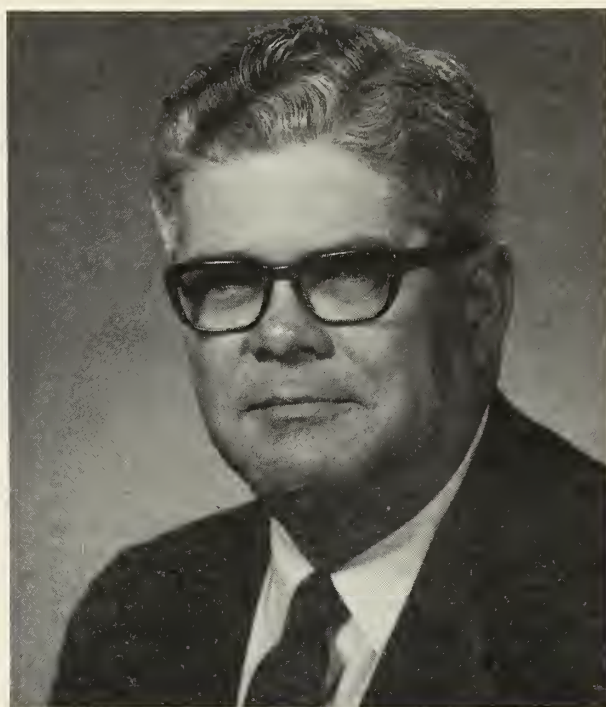
In 1970 we were just launching our Department of Family Practice. Three years later, after the concept had captured the imagination of our state's executive and legislative leadership and had been successfully lobbied by the Iowa Medical Society and the Iowa Academy of Family Practice, the Statewide Medical Education System was created by an Act of the Iowa General Assembly. The system was to be administered under the aegis of the State Board of Regents and financed by state appropriation, federal funds and community contributions. By the end of the decade, family practice had "taken off" as a specialty, and enrollment in the 8 Family Practice Residency Programs throughout the state this year numbers 166 — half of whom are graduates of The University of Iowa College of Medicine.

The College continues to have its choice of top-flight students. Its educational programs (described elsewhere in this issue by Dr. Baker) are continually evolving with the times and the needs of the profession. Departments are rigorously reviewed approximately every 5 years and whenever a change in a department headship is pending. Nineteen of the 21 department heads have been appointed within the past decade.

The quality of today's medical faculty is extremely high, as evidenced by membership and offices in prestigious professional societies, service on national panels and editorial boards, research support generated (\$21.5 million this past year), and both quality and quantity of patient care which its members provide. In faculty recruitment, as in many other areas of endeavor, success breeds success — good people want to work where good people are already working, and Iowa's traditionally strong departments attract some of the best teachers and researchers to be found throughout the country.

#### COMMUNITY PRACTITIONERS SERVE

Many fine teachers are among the practitioners who hold clinical faculty appointments and serve either in their home community settings or on the Iowa City campus. A number of these Iowa physicians are on advisory committees to the College of Medicine, and

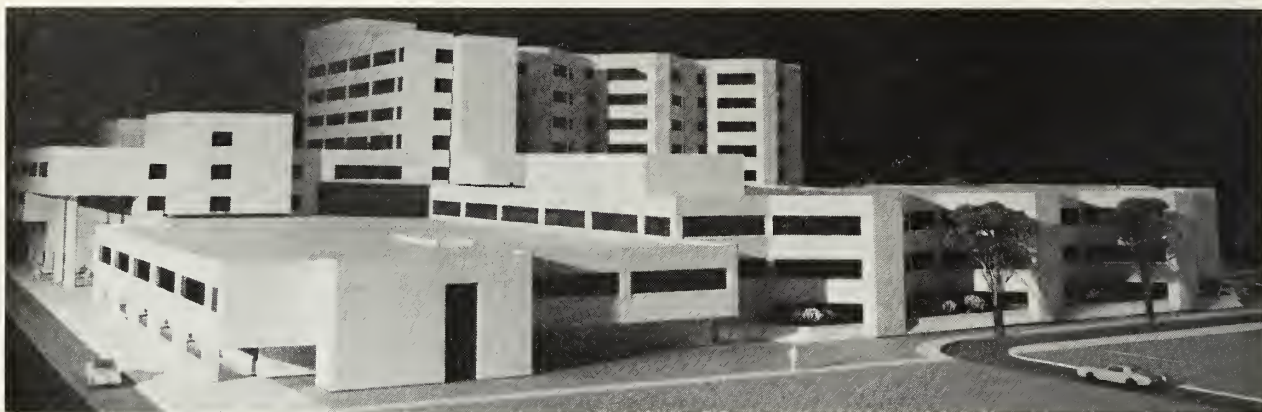


John W. Eckstein, M.D.

many others relate closely through service in various health planning organizations, state agencies and professional societies. Some 130 Iowa doctors provide clinical experience for our students in preceptorships which they conduct in their own practices. We value these daily interactions and contacts with the practicing physicians of Iowa for the visible strength they add to the educational program of the College.

Last year the College itself was accredited for 10 years by the AMA-AAMC Liaison Committee on Medical Education. Relatively few medical schools are in a position to achieve such extended accreditation, which is ordinarily granted for a maximum of 7 years. Several College of Medicine programs have been individually accredited or re-accredited within the past several years: Physical Therapy, Physician's Assistant, Medical Technology, Hospital and Health Administration, and the residency programs in University Hospitals and Clinics.

In addition to launching the Department of Family Practice and providing leadership for the Statewide Family Practice Residency Program, the College of Medicine has responded in still other ways to the perceived needs of its state. The College's Office of Community-Based Programs has aided in establishing



HANSEN, LIND, MEYER PHOTO

**SOUTH PAVILION** — In foreground is model of University Hospitals South Pavilion (Phase A) to be completed in 1983 at cost of \$21.9 million. Fully approved for construction, the new facility will house surgery and pediatric clinics and physicians' offices, plus inpatient nursing units of the Iowa Children's Health Core Center. Corver Pavilion is tall structure in the background.

model family practice centers, shares information about such centers widely, and is in continuous contact with Iowa communities seeking physicians — and with physicians seeking to locate or relocate in Iowa.

An ever-growing number of formally structured programs for health professionals throughout the state are conducted each year by the College's Office of Continuing Medical Education. Last year more than 8,500 individuals took part in nearly 200 such programs. In addition, faculty members each year log some 350 individual presentations to medical, allied health and lay audiences in Iowa communities.

Departmental walls have traditionally been low at The University of Iowa, and several interdisciplinary centers in the College of Medicine prove that the tradition lives on. Organized to help solve problems in particular areas of concern, these include the Clinical Research Center, Cardiovascular Center, Toxicology Center, Diabetes Center, the Center for Research on Psychological Disorders of Children, and the Cancer Center approved by the State Board of Regents in January.

*Have these various measures yielded more doctors?*

They have indeed, not only in gross numbers of practitioners, but in their location in relation to Iowa's scattered population. In large part, as a result of the development in family practice programs, geographic distribution of physicians has improved considerably. And Iowa has shown a net annual gain of about 70 physicians per year in each of the last 3 years.

Most of our concerns in the College today relate to our ability to maintain this momentum

in the face of several troublesome trends. One such is a decrease in the availability of the research and training funds which have traditionally underwritten much of the cost of graduate medical and scientific education. Most such funds have come from federal health and scientific agencies, which are not only scaling back their grants overall but which also are falling far short of covering the costs imposed by these inflated times. Diminishing shares of both federal and state dollars, in fact, have been available to the College of Medicine in recent years, as those governments fund other areas of interest. Through the State Board of Regents we have sought and secured additional state dollars to replace some of the federal funds no longer available to us; we have hopes the General Assembly will continue to perceive this need as serious, and respond to it.

Now in its 110th year, the Iowa College of Medicine will continue to change as the needs of its students and constituents change. But these changes will take place within the framework of the College's basic operating premises: that the teaching of undergraduate medicine should remain largely hospital-based, and that the best environment for medical teaching is a mixture of good students, talented full-time faculty members who are internally — and perpetually — motivated to search out the unknown, patients with challenging medical problems, and high quality teaching hospitals with a wide range of patient services.

May the 1980s yield as many opportunities for strengthening and growth as did the '70s — and may the Iowa College of Medicine continue to rise to the challenge!



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*In the coming years computer technology, enhanced television transmission, expanded research and other factors will serve to heighten the linkage between community hospitals and physicians and University Hospitals. Predictions are that University Hospitals will continue in the forefront in the state and nation in developing and implementing new technology.*

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## Questions/Answers RE UNIVERSITY HOSPITALS

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*The Journal is grateful to John W. Colloton, Director of University Hospitals and Clinics and Assistant for Health Services to President Willard L. Boyd, for his interesting and thoughtful responses to our questions. His forecast of the future role of University Hospitals is worthy of reading.*

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What do you consider the most significant developments at University Hospitals and Clinics during the past 10 years?

The single most significant development at the University Hospitals and Clinics during the 1970's has been the rapid conversion of this hospital from an institution primarily devoted to indigent patient care to a modern, comprehensive tertiary-level teaching hospital serving referred patients from all economic walks of life. This conversion has involved many initiatives:

- *Establishment of a common class of medical care delivery for all patients.*
- *Development of a broad spectrum of clinical subspecialty expertise now embodied in 884 doctors on the clinical staff.*
- *Huge investments in sophisticated modern medical technology.*

- *A substantially expanded hospital supporting staff.*

- *A major upgrading of the total physical environment through completion of the first 2 phases of a 4 phase capital replacement program.*

Accompanying these operational and physical modifications has been a refined philosophical posture resulting in a vigorous emphasis on humanism in our patient care mission. This initiative has involved extensive refinement of attitudinal sets to meet our goal of tailoring the total patient care program to the *individual* needs of each patient and to meet our obligation to communicate in a timely, professional and effective manner with Iowa doctors with whom we share a common patient care trust. This commitment to community physicians was embodied in a statement of "Guiding Principles of Interprofessional Conduct" adopted as a policy of this institution in 1976. The policy statement is re-emphasized on a continuing basis through extensive training programs designed to orient all staff members to institutional philosophy regarding the human dimensions of our patient care program. These commitments were further reinforced by the addition of effective Patient Service Representatives and an extensive Hospital

Volunteer Program, both of which have added a tremendous layer of warmth to our hospital.

Augmenting these person-to-person initiatives have been the addition of cheery decor, art accents, live plants and murals, all of which have further personalized the character of University Hospitals to one of a caring institution.

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How will the University Hospitals and Clinics of 1990 differ most significantly from the institution as we know it today?

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A picture of the University of Iowa Hospitals and Clinics in the year 1990 must begin with a view of the patients we will be serving at that time. Patients of the future will be preventive health oriented, relatively older, and will have high expectations for the quality of health services provided them. The knowledge explosion flowing from medical research being conducted in academic health science centers, including the Cardiovascular, Cancer, and Diabetes Research Centers and other programs now functioning in this complex, will maintain the University of Iowa Hospitals at the "cutting edge" of health care delivery. This capacity to remain at the forefront of medical knowledge will result in increased usage of University Hospitals specialty services by community physicians in support of the excellent secondary level health care system now functioning in Iowa.

In its tertiary role, the University Hospitals will be a major center in the evolving organ bank network linking major transplantation centers around the nation. This network will be crucial in responding to advancing technology and research breakthroughs in transplantation of human organs including kidneys, bone marrow, hearts, pancreata and livers. The newly initiated statewide *Air-Care* Emergency Helicopter Service will, by the year 1990, have expanded in use beyond the present highly effective emergency care program to extend the capacity of this center to serve Iowa communities through broadened diagnostic outreach and continuing education programs, including a large number sponsored by the Emergency Medical Services Learning Resources Center.

In meeting our educational support mission, it is reasonable to anticipate that Iowa's need for health manpower will sustain the enroll-

ment of most University of Iowa health science educational programs at current levels. Our society's increased desire for knowledge regarding preventive health measures and health education in general will be served by the innovative use of television. Televised communication systems will also support continuing education programs which will be integrated into the health care delivery system and mandated for a broad array of health professional staff members. Patient and professional education will focus on special community education programs transmitted from the University Hospitals and other University of Iowa Health Center collegiate units to the statewide community via cable or a public television network system. These aggregate educational demands on University Hospitals will be even greater than today.

University Hospitals is currently laying a strong foundation for the 21st century by training the health professionals needed to staff our Iowa community health delivery systems of tomorrow; developing and utilizing the latest in proven technology and services coordinate with our statewide tertiary-care mission; and by replacing early 1900 outmoded patient care facilities. By the mid-1980's, we will have completed Phase A of a second inpatient-clinic pavilion, the South Pavilion, which will replicate and be located south of the Roy J. Carver Pavilion now nearing completion. The first segment of the South Pavilion will replace existing outmoded pediatric inpatient facilities, creating the Iowa Children's Health Care Center, yet maintaining University Hospitals at its current inpatient complement of 1100 beds. While all of our capital replacement to date has been completed without any state appropriation support, elimination of the remaining 285 non-conforming beds prior to 1990 will require some state legislative assistance.

These improvements in the University Hospitals' facilities will help assure that Iowa's statewide health system will maintain its continuing improvement in the decades ahead. As patient care requirements intensify, our current staff of 5,000 will expand moderately over the next 10 years and be supported by an expanded volunteer component. The annual operating budget of a highly regulated University Hospitals will exceed \$240 million in 1990.

While no one is gifted with 20/20 vision of the



future, a long-standing intimate and continuing medical practice relationship between the physicians of Iowa and the clinical staff of this center has created a strong foundation for the University Hospitals to sustain quality service to Iowa physicians and their patients as we look forward to the 21st century.

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What changes do you foresee in the relationship between University Hospitals and Clinics and the community hospitals of Iowa during the next decade?

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During the next decade, Iowa's stratified health care system will be further refined to enhance the efficient delivery of primary and secondary health care services near the patient's home while concentrating comprehensive, tertiary-level services at the University Hospitals and Clinics. The increasing strength of Iowa's primary care system emanating from the Statewide Family Practice Education Program will foster even closer tertiary-level consultative ties between community practitioners and their colleagues on the University Hospitals clinical staff.

Beyond its primary role of providing patient care backup assistance to community physicians and hospitals of the state, while also serving as the prime clinical educational training base for the University Health Science Colleges, University Hospitals will also be serving the entire state through an expanded network of clinical outreach programs. Present-day planning precepts emphasize the necessity of functional linkages between community hospital-based health care delivery systems and a strong "core" tertiary-level teaching hospital. Through the collaborative leadership of the physicians of Iowa and the University Hospital clinical staff, the State of Iowa is currently meeting these planning objectives through a broad array of highly successful statewide patient care networks. The networks now include programs for perinatal care, renal dialysis and kidney transplantation, emergency medicine, epidemiology education and consultation, childhood cancer and hemophilia, genetics counseling, phenylketonuria and glaucoma screening, and the long-standing State Services for Crippled Children Program.

By 1990, cooperative planning efforts among

the physicians and hospitals of Iowa and this Center will further extend the clinical support services of the University Hospitals into Iowa communities through the expansion of these and other patient care outreach networks.

Building on the strong computer-assisted programs already in place at the University Hospitals, continued electronic data processing system advances will, in the next decade, permit the extension of this sophisticated diagnostic and communication capacity to Iowa community delivery systems. This innovation will allow the University Hospitals to provide community hospitals and physicians with expanded clinical support services in areas such as electrocardiology, electroencephalography, clinical pathology, epidemiology and poison control on a highly cost-effective basis. This evolving initiative, coupled with advances in television communication systems, will not only directly assist Iowa community health systems, but also facilitate compliance with mandated continuing education requirements for health professionals who staff Iowa community hospitals. The University Hospitals and other U. of I. Health Center collegiate units will transmit broadscale statewide continuing education programming for community hospital health professionals via the evolving Iowa cable system or a public television network.

New health technology and services will continue to be developed through research efforts at the University of Iowa and other research centers around the nation. This institution will continue to serve as the hospital where most new technologies and services will be introduced and developed in the State of Iowa. As they move from the development phase, many of these technologies and services will continue to diffuse through Iowa's health care delivery system to become the secondary and primary care modalities of tomorrow. Some of the services that require specialized support staff and facilities or require a large "critical mass" to assure appropriate efficacy and utilization will remain tertiary services provided for the state by the University Hospitals. It is impossible to definitively predict what the new technologies and services of the 1990's will be, but one can be certain there will continue to be advances in medical knowledge which will change the mix of patient services provided at this center.

# At The Turn-of-the-Decade

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Fetal alcohol studies. Use of a promising oral retinoid. Advent of revolutionary 'big' machines in radiology. Identification of chromosomal abnormalities. Reimplantation of limbs. These are but a few developments of the 70's. They're touched on briefly in the following status reports from the heads of the several departments within the College of Medicine at The University of Iowa. Taken in total, these upbeat comments indicate that medicine is on the move in Iowa.

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## ANATOMY

TERENCE H. WILLIAMS, M.D., Ph.D.  
Professor and Head

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There are two principal goals of the Anatomy Department: (1) to teach anatomy to every medical student (plus student groups in the other health science colleges and programs), and (2) to engage in research, to expand the body of knowledge incorporated in medical science. Three examples of current research in the Department include fundamental studies in fetal alcohol syndrome, neuroblastomas, and neonatal hyperbilirubinemia.

Drs. James West, Asa Black, Jr. and Arnold Applebaum are working on "Fetal Alcohol Syndrome." This is thought to be the third leading cause of mental retardation in infants. The project is following a multidisciplinary approach and involves neuroanatomical, neurophysiological and neurochemical techniques. Using the discretely laminated rat hippocampus, the researchers are conducting experiments to answer such questions as: *How does alcohol consumption during pregnancy effect the brain development of the fetus? Is drinking more*

*dangerous to brain development at certain times during pregnancy? Is it the total amount of alcohol consumed or the peak blood alcohol level reached that is the most dangerous? Is there a safe level of alcohol consumption where no damage to the fetus occurs?* Emphasis is being placed on determining whether the changes found represent instances of developmental delay or whether they persist as permanent defects.

The possibility that glucocorticoids regulate differentiation in developing neuroblasts and that a neuroblastoma arises due to failure of this process is being studied by Dr. Dean Sandquist. As a malignant neoplasm of the developing sympathetic nervous system, neuroblastoma usually presents in early childhood as a tumor arising from the adrenal medulla or sympathetic ganglia. Since it is known that glucocorticoids can regulate development of the sympathetic nervous system, and conversely, neuroblastoma can arise in the absence of sufficient glucocorticoid production, this project was initiated to investigate the effects of glucocorticoids (particularly dexamethasone) on neuroblastoma in tissue culture. Although highly malignant, this cancer retains the capacity to regress spontaneously

THE SCANLON MEDICAL FOUNDATION/IOWA MEDICAL SOCIETY HAS DESIGNATED THIS ARTICLE  
AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF APRIL 1980.



and/or differentiate into benign tissue. An explanation of this phenomenon would be of great interest clinically.

A number of clinical studies have established neonatal hyperbilirubinemia as an etiological factor in dyskinesias and cerebral dysfunction. Dr. Jean Jew is carrying out studies to trace and explain this basic disease process, including hypothesized partial recovery, and to test in animals the effectiveness of proposed therapeutic measures. Experiments are designed to determine the effects of bilirubin toxicity on development of brain structure and function. Using an animal model for neonatal jaundice, performance of behavioral tasks is observed to detect deficits in learning ability, motor activity and "emotionality." Quantitative light and electron microscopic evaluations of structural damage to important brain structures will help determine how much damage and how much recovery occurs after bilirubin intoxication in the central nervous system and will facilitate accurate predictions about the natural history of the disease in the human. These same research techniques will be used to evaluate and compare the effectiveness of various therapeutic regimens proposed for use in neonatal jaundice.

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## BIOCHEMISTRY

**EDWARD C. HEATH, Ph.D.**  
Professor and Head

A major research innovation in the Biochemistry Department involves participation in the Diabetes and Endocrinology Research Center, recently established in the College of Medicine. This Research Center is sponsored by the National Institutes of Health. It focuses the research programs of 15 faculty investigators, half of whom are in the Department of Biochemistry. These basic studies are related to diabetes and other endocrine disorders.

The Research Center provides specialized "core" laboratories in which can be found: (a) radioligand assay technology for quantitative determination of peptide hormones; (b) a specialized tissue culture facility for cultivation of human cells in large quantities, and (c) a molecular biology facility to provide resources for genetic manipulation, genetic engineering, and genetic analysis of human cells. These core laboratories are staffed by experts and provide support for the entire Research Center. The



**BONE MARROW TRANSPLANT** — University Hospitals had its first bone marrow transplant in January. Here physicians extract marrow from the donor. It was given later intravenously to Ms. Cindy Collier of Council Bluffs.

molecular biology facility is a major function of the Department of Biochemistry under the direct supervision of John E. Donelson.

The Research Center also supports an educational program on endocrine disorders. Involved here is a lecture series which includes seminars by invited outside speakers as well as the organization of symposia. Financial support is provided also to help pilot College of Medicine research projects judged to be innovative and imaginative. Involved here is basic research in diabetes and other endocrine disorders. Faculty of the Department of Biochemistry participating in this program are Drs. Roger Chalkley, John Donelson, Barry Ginsberg, Daryl Granner, Arthur Spector, Joseph Walder and Peter Weil.

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## DERMATOLOGY

**JOHN S. STRAUSS, M.D.**  
Professor and Head

The Department of Dermatology is undergoing re-organization with the addition of several new faculty.

The major emphasis is on maintenance of clinical care excellence for referral patients. The 12-bed in-patient unit is the only specialized dermatological unit in the state and is fully equipped to care for patients with extensive dermatoses.

In outpatient care, the Department continues as a major referral center for skin cancer treatment. Large-sized lesions, or lesions in difficult areas, are treated by microscopically-controlled excision to eradicate the tumor with the minimum destruction of normal tissue

while still obtaining the maximum chance of cure.

The Department has been involved in the use of the promising oral retinoid, 13-cis retinoic acid, to manage severe cystic acne. While use of this drug is still experimental, and no new patients can be entered in the studies at present, the results are extremely encouraging among the 33 individuals who have been treated here. Iowa was the first institution outside of the NIH to use the drug.

New research laboratories are now being established for the study of cutaneous immunology, sweating, and sebaceous gland function and the pathogenesis of acne.

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## FAMILY PRACTICE

ROBERT E. RAKEL, M.D.  
Professor and Head

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In the decade since the Department of Family Practice was established in 1969, coincident with the creation of the American Board of Family Practice, the Department has become one of the largest and most stable programs in the country. Today it comprises 17 full-time faculty members, 5 fellows, 98 clinical faculty, and 30 residents.

Primary medical care is delivered to patients in three distinct geographical areas: Oakdale, Williamsburg and Iowa City. These model offices are the primary teaching centers for the Department, and from the perspective of the patient they function in a manner identical to a physician's private practice. The physicians staffing these offices have available to them the services of clinical pharmacists, dietitians, social workers, and various other allied health personnel to assist them in delivering comprehensive and continuing medical care.

In 1977, the Robert Wood Johnson Foundation awarded funds to the Department to establish a 2-year fellowship program for improving the quality and quantity of teachers in family medicine.

The Department has also actively introduced family medicine into the medical school curriculum through a variety of undergraduate courses, including:

- 1) *"Human Dimensions in Medicine"* in the freshman year.
- 2) *"Principles of Family Medicine"* in the sophomore year.

3) *Participation in the sophomore course "Introduction to Clinical Medicine."*

4) *Preceptorships with family physicians for junior and senior students.*

5) *Approximately 20 electives, offered throughout the state during the senior year.*

Additionally, the Department is actively involved with: a statewide network of affiliated family practice residency programs involving 166 residents training in University affiliated programs (Davenport, Des Moines, Mason City, Sioux City, Waterloo); the alcoholism unit at Oakdale; the establishment of a comprehensive geriatric project; intensive research on the development of the problem-oriented medical record; a computerized medical information system; and a medical information card carried by patients.

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## INTERNAL MEDICINE

FRANCOIS ABBODD, M.B., Ch.B.  
Professor and Head

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Our challenge in the 70's has been to continue to provide excellent teaching and training for medical students, general internists, specialists and academicians; to practice excellent general internal medicine as well as subspecialty medicine in a tertiary care center; and to make significant fundamental scientific discoveries.

The programmatic developments in the subspecialties of Internal Medicine in research, teaching and patient care have led to the identification of several divisions. These divisions have major responsibilities which often equal those of full departments. The modern Department of Internal Medicine is, in fact, a federation of 11 divisions held together by a) the need for an in-depth critical approach to the general care of the sick closely integrated with subspecialty care, and b) the need for a coordinated scientific approach to the education of students, residents and fellows in General Internal Medicine as well as its subspecialties. The resources and programs of the Department are not to be viewed therefore as those of a single department, but rather those of several departments efficiently integrated.

Following are brief accomplishments in each division of Internal Medicine.

*General Internal Medicine:* The Division was formed to reinforce our commitment to the



training of general internists and to provide an opportunity for post-residency training of individuals who want to remain in an academic environment to pursue the in-depth practice of General Internal Medicine. Programs in Emergency Medicine and in Geriatrics have begun and a determined effort to provide a "continuity of care" experience for the residents in Internal Medicine has met with success. A major accomplishment has been the provision of leadership in the development of the Bone Marrow Transplantation Program and the program for matching of platelets and granulocytes, the latter in conjunction with the Departments of Pediatrics and Pathology.

**Allergy-Immunology:** Knowledge advances in basic immunology, immunopathology and immunopathogenesis bring increasing understanding of allergic diseases. Advances in patient care include: 1) The use of newer forms of allergens in immunotherapy for treatment of hay fever and asthma. These forms stimulate higher levels of immunity with less frequent injections and fewer side effects. 2) Bronchial challenge with pharmacological agents and allergens aids in the diagnosis of bronchial asthma in patients with subtle variants of the disease, such as the "cough variant." 3) Research in immunopathogenetic mechanisms in hypersensitivity pneumonitis, such as Farmer's lung, is leading to more selective diagnostic methods, a better understanding of prognostic factors, and implications for prevention and treatment. 4) Studies of the lung as an immunologic organ have led to an increased understanding of inflammatory events in the lung which occur in diverse diseases, often of unknown etiology.

**Cardiovascular Disease:** (1) The Cardiovascular Center was established as a major interdisciplinary core facility for research and teaching, involving many faculty members from throughout the University. Private funds provided a 2-story addition on top of the Medical Research Center. (2) Computerized interpretation of electrocardiograms was made available to Iowa physicians and currently the system serves 5 hospitals as well as University Hospitals. (3) A statewide system for telephonic monitoring of pacemaker function was implemented. (4) A nationally recognized center for echocardiography was established. (5) Intensive study of complex arrhythmias was carried out by using electrophysiologic methods.

(6) Continued leadership in studies on atherogenesis was demonstrated. (7) The first computerized cardiac catheterization laboratory in the state was developed. (8) Sophisticated nuclear imaging techniques included: technetium pyrophosphate infarct scintigrams to localize the site of myocardial infarction; thallium-201 perfusion scans to determine regional left ventricular perfusion and isotope ventriculograms to assess ventricular function at rest and during exercise.

**Clinical Pharmacology:** (1) Researchers uncovered substantial evidence in man and animals that the rationale for megavitamin therapy for elevating levels of water-soluble vitamins in the cerebrospinal fluid is invalid. (2) Means were developed for modifying active transport mechanisms for drugs at the blood-brain and blood-cerebrospinal fluid barriers that interfere with treatment of meningitis. (3) Evidence



**ACUTE STROKE MONITORING** — The 6-bed Acute Stroke Monitoring Unit was phased in last year. It is a joint service of the Department of Neurology and the Department of Surgery's Division of Neurosurgery. Above, Harold Adams, M.D., assistant professor of neurology and director of the unit, examines a patient with Suzanne Bray, R.N.



was summarized showing that digoxin is less useful in patients with heart failure and normal sinus rhythm than previously thought. (4) Important racial differences were found in the metabolism of certain drugs with important implications for proper dosing and treatment with these drugs.

*Endocrinology:* (1) The end of the decade saw the establishment of a Diabetes and Endocrinology Research Center, one of 3 sponsored by the NIH for the primary purpose of providing a comprehensive approach to studies of the mechanism of action of insulin, insulin-related peptides, and steroid hormones. (2) The Andrology Clinic was opened in conjunction with the Department of Urology to provide comprehensive medical and surgical care for diseases involving the male reproductive-endocrine system. (3) A pituitary tumor research study with the Departments of Obstetrics and Gynecology, Neurosurgery, and



5000TH IN 1979 — University Hospitals' 5000th open-heart surgery was performed in March 1979. This surgery has evolved under the leadership of Jahann L. Ehrenhaft, M.D., professor and chairman of the Department of Surgery's Thoracic-Cardiovascular Division.

Radiology has led to use of transphenoidal hypophysectomy, primarily for removal of prolactin secreting tumors.

*Gastroenterology-Hepatology:* (1) The available clinical skills enabled the establishment of one of the finest facilities in the Midwest for diagnosis and treatment of problems requiring upper gastrointestinal endoscopy, endoscopic retrograde cannulation of the common and pancreatic ducts, colonoscopy and polypectomy, esophageal dilatation and manometry, intestinal biopsies and percutaneous transhepatic cholangiography. (2) Active research took place in fluid mechanics of the gastrointestinal tract, intestinal motility, intestinal absorption and secretion and control of hepatic blood flow, to mention only a few.

*Hematology-Oncology:* (1) The central University established a flow cytometry laboratory as a core facility which has extensive application in cell biology, immunology, endocrinology, hematology and cancer. (2) Bone marrow transplantation, in conjunction with other departments and divisions, became a reality. It is performed at only 6 other centers in the nation. (3) Establishment of an Acute Leukemia Service brought about an organized approach to treatment, research and teaching. The result has been a much improved outlook for patients with acute leukemia. (4) A Cancer Center was organized in conjunction with many other departments and divisions within the University, for a multidisciplinary approach to research and teaching.

*Infectious Disease:* (1) Treatment innovations were made in the management of prosthetic valve endocarditis and guidelines formed for the diagnosis and management of culture-negative endocarditis. (2) Information of clinical value in the understanding of Legionnaire's Disease was developed. (3) A tissue culture assay was developed for use in the diagnosis and study of cholera and traveler's diarrhea. (4) New insights into the genetic basis of slow virus diseases of the central nervous system were made.

*Pulmonary Disease:* (1) A nationally recognized center was established for the development of fiberoptic bronchoscopy. (2) As recently as 1970 there were still about 100 patients requiring extended hospitalization for tuberculosis at Oakdale Sanatorium. Modern drug therapy has reduced hospitalization to a maximum of 7 to 10 days. (3) Advances in as-



sisted respiration and careful monitoring of heart and kidney function in the Intensive Care Unit make successful treatment possible for many patients in acute respiratory failure.

*Renal-Hypertension:* (1) A new Renal Dialysis Center was opened as the core facility in the statewide network of 8 hospitals serving people with end-stage renal disease. (2) A program of home hemodialysis was developed, allowing many patients to remain in their homes and jobs. The rate of employment for patients after starting hemodialysis exceeds 75% for those previously holding jobs. Recently a new form of ambulatory peritoneal dialysis has been instituted. (3) The Kidney Transplantation Center at University Hospitals, the only such facility in the state, was very active during the decade. (4) Patients were enrolled in national trials of new drugs for the treatment of hypertension, some of which have been adopted into standard therapy.

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## MICROBIOLOGY

IRVING P. CRAWFORD, M.D.  
Professor and Head

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The Department's faculty, along with graduate students and postdoctoral fellows, work in 5 sub-disciplines — pathogenic microbiology, virology, immunology, microbial genetics and microbial physiology. Faculty research in these areas over the last 10 years include the following:

*Legionnaires' Disease agent.* A nationwide search for the etiologic agent responsible for an epidemic of respiratory illness among registrants at an American Legion Convention in Philadelphia in 1976 resulted in the implication of a previously unrecognized bacterium with unusual growth requirements (now named *Legionella pneumophila*). Members of the Microbiology Department were naturally interested in its further characterization. They soon learned to cultivate and work with it. In collaboration with colleagues in the State Hygienic Laboratory and the Department of Medicine, they determined this was not a "new" agent, but one causing sporadic pneumonias among Iowa residents for at least 10 years. This bacterium prefers to attack men in their forties and fifties and seems to do so in the warm weather months. This may be explained by the fact that *L. pneumophila* is a normal soil and water organism that must be inhaled in some quantity to cause disease, and in our state it is men

past middle age who most often meet the paradigms of susceptibility and exposure.

The major surface antigen of *L. pneumophila* appears to be a loosely associated capsular polysaccharide, just as in the case of the pneumococcus. There are several antigenic types, again like pneumococcus; presently 4 are known. This capsular substance is chemically unlike the pneumococcal polysaccharide however, and intensive studies are under way to characterize it fully and clarify its role in pathogenesis as well as its efficacy for use as a vaccine.

*Cytomegalovirus.* This is a large, DNA-containing virus of the herpes family. It is a not uncommon cause of congenital anomalies and perinatal infections. It shares with herpes simplex virus the ability to "go underground" and remain dormant in an individual for long periods. Microbiology Department virologists have progressed in understanding the structure and regulation of the genome of cytomegalovirus. Suitable cell culture systems exhibiting dormancy have been established for both the human and murine forms of the virus, and experiments are now feasible to learn details of the molecular mechanism for establishing and maintaining dormancy. These systems should allow clarification of the role of interferon in the process, looking forward to the day, not far distant we believe, when this substance will be readily available for clinical use.

*Cellular immunity to tumors.* Part of the explosive expansion in immunological knowledge this past decade concerns the role of lymphocytes as active agents of immunity, as well as producers of antibodies. The T subset of lymphocytes expands in response to the presence of foreign substances, providing the major line of defense against many microbial invaders. It is believed these cells also perform the task of "immune surveillance" against newly arising neoplasms. It is not known how clinical malignancies avoid this cellular immune response. One animal model that resembles many human tumors in having only a slight antigenic difference from normal cells is a particular rat prostatic tumor line. This tumor is under intensive study within the Department to find the circumstances by which "sensitized" T cells from tumor-bearing hosts can influence the outcome of varied inoculations of tumor cells in immunologically naive animals.

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## NEUROLOGY

**MAURICE W. VAN ALLEN, M.D.**  
Professor and Head

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The Department of Neurology has promoted increasing subspecialization of its staff with consequent greater expertise in diagnosis and treatment and enhanced opportunity for research. As part of this trend, 2 major Divisions have been created in the past 5 years.

Electrodiagnosis is a major province of the neurologist, and substantial emphasis has been given to the *Division of Clinical Electrophysiology*, staffed by Drs. Jun Kimura and Thoru Yamada. In addition to all of the usual electroencephalographic and electromyographic tests, the laboratory has expanded to encompass special studies of cranial nerve function and computerized analysis of brain waves evoked by visual, auditory and sensory stimulation. These tests are now routine and have important specific applications. Especially valuable has been the new potential for prolonged television and electroencephalographic monitoring of patients with disorders of the consciousness that are difficult to analyze and the intra-operative monitoring of patients undergoing carotid endarterectomy and cortical excisions for epilepsy.

The *Division of Behavioral Neurology*, headed by Dr. Antonio Damasio, is an outgrowth of long-established special studies in neuropsychology by Dr. A. L. Benton. The staff of this Division contributes substantial accuracy to the diagnosis of organic brain disorders, including aphasia and alexia. Requests for service are steadily growing, particularly with reference to analysis and appraisal of the dementias and their causes. The Division has assumed a position of national leadership in investigation in behavioral neurology with its recent important contributions. Anatomic correlates of impaired function and computerized tomography are emphasized in investigative work.

Other special interests of the staff are reflected in special clinics for migraine (Dr. H. Damasio), neuromuscular diseases and myasthenia gravis (Drs. E. P. Bosch and Dr. R. L. Rodnitzky), and a newly-established clinical facility — The Stroke Unit — for special care and monitoring of stroke victims (Dr. H. P. Adams). Special attention to difficult problems in epileptic control is provided by Drs. R. Fin-

cham and M. J. Murphy. Longstanding collaboration with Ophthalmology has been made even more productive by Dr. J. J. Corbett, whose clinical and research efforts integrate with those of Dr. H. S. Thompson in the Department of Ophthalmology.

Dr. L. Lyon, in addition to extensive teaching responsibilities in the College, has expanded and managed the external and allied health teaching programs.

The new facilities for the Department in Carver Pavilion, with 48 in-patient beds contiguous to outclinic and staff offices, provide one of the finest physical accommodations for Neurology in the country.

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## OBSTETRICS AND GYNECOLOGY

**ROY M. PITKIN, M.D.**  
Professor and Head

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The past decade has seen a large number of technological and conceptual advances in reproductive medicine. Many of these have altered the clinical practice of obstetrics and gynecology.

Techniques of fetal monitoring, developed from basic research in the 1960s, became an integral part of obstetric care in the 1970s. Numerous studies have documented the value of continuous electronic monitoring of the fetal heart rate and uterine contractions in identifying the fetus at risk for intrapartum asphyxia. Electronic fetal monitoring has proved to be a valuable index of fetal normality and, when supplemented by fetal blood gas measurements, it provides a reliable indication on which to base intervention for hypoxia. Comprehensive biophysical and biochemical assessment of the fetus has become an integral part of the care of pregnancies identified as being at high risk.

A major advance in reproductive endocrinology has been the development of assay techniques for the hormone prolactin. Application of this methodology has led to recognition of hyperprolactinemia as a common cause of amenorrhea and infertility and to a new diagnostic entity, pituitary microadenoma or prolactinoma. Evaluation and treatment of this condition by a multidisciplinary team at The University of Iowa has involved more than 100 patients. It has led to formulation of a proposed pathogenesis involving previous estrogen stimulation.



The technique of colposcopy, while more than 50 years old, was re-discovered in the early 1970's and has become widely used to assess the uterine cervix for detection of early neoplasia. By identifying areas of potential abnormality not visible to the naked eye, the patient with abnormal cervical cytologic smears may have the precise histologic diagnosis made without the need for cervical conization with its attendant expense and risk of complications.

Few medical advances have progressed more rapidly than prenatal genetic diagnosis by amniotic fluid analysis. Over the past decade, means of identifying chromosomal abnormalities, neural tube defects, and certain inborn errors of metabolism in the mid-trimester fetus have evolved from basic research techniques to widespread clinical application. During 1979, 330 patients with pregnancies at risk for such congenital diseases were seen and evaluated at The University of Iowa.

These are a few of the new developments in obstetrics and gynecology. There is reason to anticipate the 1980's will bring more and exciting innovations.

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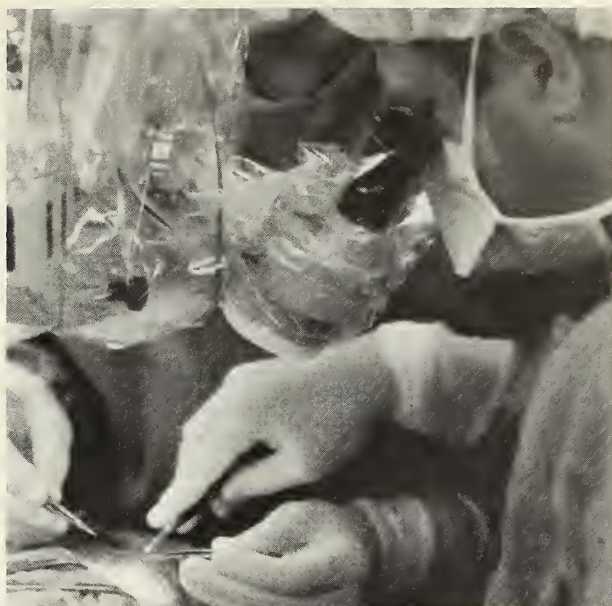
## OPHTHALMOLOGY

**F. C. BLODI, M.D.**  
Professor and Head

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In the last decade a number of new techniques and treatments have been developed in the Department of Ophthalmology. Most concern the diagnosis of ocular diseases or the treatment (medical and surgical) of ophthalmic disorders. The most important are:

1. *Use of ultrasound in the diagnosis of ocular diseases.* This type of clinical echography is important and useful in the diagnosis of lesions within the eye and the orbit. High frequency sound waves are used and the echo is absorbed in a probe, amplified, and presented on an oscilloscope. In this way, the eye and the orbit are explored even if the lesion is not visible. For example, we can examine the interior of the eye although the cornea is cloudy or the lens opaque. It gives us important clues to the condition of the posterior part of the eye. A retinal detachment or an intraocular tumor can be detected even though the optical media are not transparent to the ophthalmoscope. In addition, the so-called quantitative echography allows for a tissue diagnosis with a high degree



**CORNEA TRANSPLANTATION** — University Hospitals, site of the Iowa Lions Cornea Center, is the corneal transplant facility for the state. Jay Krachmer, M.D., associate professor of ophthalmology, conducts one of more than 100 cornea transplants performed in 1978-79.

of reliability. In this way we can differentiate a choroidal melanoma from a hemangioma, a metastatic tumor from an organized hemorrhage, etc. The diagnosis of intraocular lesions and the accuracy of our clinical diagnosis have been improved tremendously.

Echography is of equal importance in the diagnosis of orbital lesions. Not only can these lesions be evaluated as to size and site, they can also be differentiated from each other. This method of examination has often made an orbital biopsy, formerly a frequent necessity, superfluous. Echography of orbital lesions is done occasionally with computerized tomography, but the former is more reliable, more useful and cheaper.

2. *Vitreous surgery in endophthalmitis.* Vitrectomy, i.e., the excision of the vitreous, is a frequent and useful operation in cases of vitreous hemorrhage, vitreous scars and similar conditions. The Department is starting to use the same operation for inflammatory conditions of the eye. These are usually post-traumatic, bacterial endophthalmitis cases in which the removal of the vitreous with the abscess and most of the organisms frequently leads to a cure of the inflammation. At the same time antibiotics can be injected into the vitreous space.

In this way many cases of acute or chronic



**ARTHROSCOPY** — This revolutionary technique is undertaken about 30 times a month by orthopaedic surgeons at University Hospitals. The procedure allows knee patients to mend in a fraction of the time needed in other repair methods. Shown here is John Albright, M.D., right, associate professor of orthopaedics and team surgeon.

intraocular inflammation can be improved and even cured. The vitreous becomes clear again and vision can be restored.

3. *Light coagulation of macular lesions.* The Department has been a leader in the evaluation of the value and indications of light coagulation for macular lesions. Our controlled prospective studies show in certain types of exudative macular lesions that light coagulation of a pigment epithelium leak will shorten the morbidity though the end results are not affected. In patients with more severe macular scarring or senile macular degenerations the indications for light coagulation are more limited and the results less promising.

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## ORTHOPAEDIC SURGERY

**REGINALD R. COOPER, M.D.**  
Professor and Head

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Recent orthopaedic advances include the following:

1. *Microvascular Techniques* have changed the spectrum of hand surgery to allow reimplantation of limbs and parts of limbs and the more exact repair of nerves and tendons. Dr. Joseph Buckwalter in our Department has used these methods successfully to reimplant digits on patients transported by helicopter. He and Dr. William Blair in our Hand Surgery Division will extend this service to include the moving of musculocutaneous flaps to cover extremity defects.

2. *Spine Surgery* has changed dramatically. Dr. Stuart Weinstein manages severe scoliosis and acute spine fracture dislocations by a va-

riety of internal fixation methods. Among other advantages, this allows early transfer of those with cord damage to the orthopaedic rehabilitation unit. Drs. Tom Lehmann and Richard Brand, working in the Rehabilitation Engineering Center, have devised and/or used a variety of sophisticated diagnostic techniques and management protocols for those with low back disease. This includes a low back school for patients.

3. *Trauma Surgery and Sports Medicine.* Advances include new methods of internal compression and external fixation of fractures, cast braces, and electrical stimulation of non unions. Dr. William Pontarelli will direct the use of these on our trauma service as of July 1. Dr. John Albright applies an ever-increasing number of techniques to those injured in sports. This includes newer types of knee ligament reconstruction and the use of arthroscopy with television monitoring for diagnosis and surgery of the knee.

4. *Tumor Management* by Dr. Mike Mickelson includes the more accurate delineation of tumors by bone scans, CAT scans, and arteriograms and management by wide local and regional resections combined with chemotherapy. This has dramatically improved "cure rates" for those with musculoskeletal tumors.

We continue to advance in total hip and the newly developed hip surface replacements; knee, shoulder, hand, and elbow replacements; limb lengthening; improved prosthetics and orthotics; and a variety of methods to treat children with musculoskeletal problems. The faculty continues clinical and basic research aimed at improved patient care.

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## OTOLARYNGOLOGY AND MAXILLOFACIAL SURGERY

**BRIAN F. McCABE, M.D.**  
Professor and Head

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The Department of Otolaryngology and Maxillofacial Surgery has made a number of internationally recognized contributions to medicine over the past decade.

In reconstructive surgery of the head and neck, members of the Department, principally Dr. Janusz Bardach, have devised surgical methods by which a nose or an ear congenitally deficient or lost through trauma or cancer can be reconstructed. These are multiple-staged operations, done in very few centers in the world, which result eventually in an organ that



truly looks like a nose or an ear. In the situation where soft tissue reconstruction is not feasible or is declined by the patient, a cosmetically attractive external prosthesis is made in a new section of the Department devoted exclusively to facial prosthetics. A significant advance has been made in prosthesis coloration. The carefully-matched tissue color is blended into the substance of the polymer rather than simply painted on. This advance in technique results in retention of the color for the life of the prosthesis, obviating the need for repainting every 6 to 12 months.

Also in reconstructive surgery, the world's first successful free island flaps to the mouth and throat were carried out only 4 years ago in this Department. This was done principally through the efforts of Dr. William Panje and permits reconstructive and ablative surgery in cancer in a single stage. New myocutaneous flaps have also been developed in the Department to allow immediate reconstruction with regional tissue without the usual delay requirements of the older regional flaps. The free island flap expertise has been shared with the Department of Orthopaedic Surgery to enable them to cover extensive bone exposure in extremities.

Neoglottic reconstruction is also being carried out with increasing success. A device has been invented in the Department to restore the voice to old laryngectomy patients with a brief operation under local anesthetic.

In the ear, two new diseases have been described by Dr. Brian McCabe. The first is characterized by a conductive deafness and episodic vertigo and is termed the Otosclerotic Inner Ear Syndrome. Both the deafness and the dizziness are relieved by a relatively minor ear operation under local anesthetic. The second, described only a few months ago, is termed Autoimmune Inner Ear disease. It is an affliction of young adults where there is rapidly progressive sensorineural deafness. If undetected and untreated, the disease results in total and bilateral hearing loss. Vigorous appropriate treatment arrests the hearing loss and produces in almost all patients a significant, sustained improvement of hearing.

In the last decade, the Department has become a national leader in neurotologic disease with referrals from throughout the United States. This has been principally through the efforts of Dr. Lee Harker and Dr. McCabe.



**PEDIATRIC PROGRESS** — The Department of Pediatrics' Iowa Children's Health Care Center will consolidate its 5 divisions in the new South Pavilion. As a part of the Center service, a pediatric nurse practitioner monitors the heartbeat of a young patient.

Significant research advances have been made. Space limitation allows singling out only a few examples, such as the new insights into the enzymology of chronic vasomotor and allergic rhinitis by Dr. Robert Bumsted; central vestibular mechanisms by Dr. Richard Babin, and the basic mechanism of bone destruction in chronic mastoiditis by Dr. Maxwell Abramson and Dr. Bruce Gantz.

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## PEDIATRICS

**FRED G. SMITH, M.D.**  
Professor and Head

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The past decade has been a period of dramatic growth for the Department. An ambitious faculty recruitment program was begun in the first part of this decade to bring new depth and vigor to the Department's teaching, research and clinical service programs. As of 1980, the clinical services have expanded to the point where virtually all the subspecialty clinical services in pediatrics will be established in the Department.

Our new faculty have been instrumental in developing innovative continuing medical education and service programs for Iowa physicians who care for children. For the most part, these programs have been designed so the faculty are working in direct collaboration with community physicians to provide important clinical services as well as educational opportunities at the community level. There are now physician education and service programs in the areas of neonatal intensive care, resulting in lower mortality rates for high-risk babies

born in Iowa; hemophilia care, enabling youngsters to receive more immediate treatment for bleeding episodes; cancer care, keeping treatment close to home through a statewide network of community physicians; genetic counseling, reaching all parts of the state through the Regional Genetic Consultation Service; a regional community program providing services for children with special needs; and a 5-state regional child abuse and neglect center.

All of these programs are characterized by meaningful interaction between the faculty and community physicians in order to expand services for children at the community level and avoid the necessity for traveling long distances to receive certain types of care.

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## PHARMACOLOGY

**JOHN P. LONG, Ph.D.**  
Professor and Head

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Dr. Thomas Tephly and his clinical colleagues have been evaluating the toxicity of methanol in humans, which is characterized by metabolic acidosis and ocular toxicity. Rats, mice and most other laboratory animals are not sensitive to methanol and do not show the above responses which are characteristic of human toxicity. Recently, Dr. Tephly and his colleagues have shown that formic acid accumulates in monkeys and humans following methanol ingestion and that this metabolite of methanol accounts for both the metabolic acidosis and blindness in monkeys. Formic acid does not accumulate in rats.

Folic acid is involved in the regulation of formic acid metabolism and determines whether a species is sensitive to methanol (formate). Thus rats can be made to display metabolic acidosis following methanol administration if the animals are rendered folate-deficient. Recently workers in this laboratory have treated monkeys that were intoxicated with methanol and displayed metabolic acidosis with folic acid or 5-formyl-tetrahydrofolic acid and have ameliorated the acidosis and promoted the oxidation of formic acid to carbon dioxide. Studies are now under way to determine the *mechanisms* related to the regulation of formic acid metabolism by folic acid.

Dr. John P. Long, in conjunction with Dr. John Diana, Department of Physiology, has described a compound which is a cyclic

dopamine analog that is capable of restoring blood flow to an ischemic area of a dog heart impaired by ligation of branches of the descending coronary artery. The agent apparently is acting by opening collateral circulation and this is accompanied by no apparent reduction in flow to either the endocardium or epicardium. It is hoped that agents of this type may be useful in treating myocardial infarcts.

Another area of experimentation and development involves the teaching of pharmacology to undergraduate students who have no background in biochemistry and physiology. The Department has been offering this educational opportunity for the past 10 years and the positive reception by the students continues to grow. The 150 undergraduate students in the course have the opportunity to learn the basic principles involved in the interaction between a chemical and a living system. In addition, agents that are commonly used and abused in our society are discussed in light of current knowledge. This is a most rewarding experiment in education. Expanding the knowledge concerning drugs is a noble goal that should benefit all of society.

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## PHYSICAL THERAPY

**GARY L. SMIDT, LPT, Ph.D.**  
Professor and Director

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The University of Iowa Ph.D. program for physical therapists is one of the first such doctoral programs in the country. It was launched in 1972. It is offered in conjunction with the Department of Physical Education and emphasizes research and teaching in three areas of physical therapy: musculoskeletal (orthopaedic), neuromuscular (neurology), and cardiopulmonary. Pediatrics is included in the neurology area. The central focus of the program is the development of theoretical and practical bases for assessment and treatment of abnormal human movement.

In physical therapy circles, The University of Iowa has been a leader in research. Faculty members have published 75 scientific papers during the past decade, and in recent years have made many presentations at national meetings. Both faculty and students have been formally recognized with national awards emblematic of excellence in research. Faculty members also serve on editorial boards for various professional journals.

Areas of faculty research interest and pro-





**THERAPY EVALUATION** — Assessment of gait in neurodevelopmental disabilities in physical therapy.

ductivity include human and animal gait, strength testing, biomechanics, quantification of physical disability, electromyography, muscle tension, aerobics and energy expenditure, endurance exercise training, electromechanical instrumentation, physical agents, and control of movement and locomotion in neurodevelopmental disorders. The Department's state-of-the-art electromechanical equipment includes laboratory computers which comprise systems capable of objectively measuring pathological motion which may result from neuromusculoskeletal and/or cardiopulmonary based abnormalities.

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## **PHYSIOLOGY AND BIOPHYSICS**

**ROBERT A. FELLOWS, M.D., Ph.D.**  
Professor and Head

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The 1970's have been years of transition for the academic disciplines of physiology and biophysics, both nationally and at The University of Iowa. The past several years, in particular, have seen an acceleration and extension of our interests, from understanding the function of whole organisms and organ systems to a new focus on the function of cells. This has been in an attempt to discover mechanisms underlying regulation of cell function in health and disease. In this period, the staff of this Department and its research facilities have undergone evolution to emphasize a) mechanisms of excitability in nerve and muscle cells; b) cellular regulation of hormone synthesis and secretion, and mechanisms by

which hormones regulate membrane function and gene expression; c) synthesis and mode of action of neuropeptides and neurotransmitters, and the regulation of brain development and function; and d) mechanisms involved in the transport of ions and small molecules across cell membranes.

Four groups of faculty and students are emerging in the new areas of emphasis. These groups share new technical facilities for computing, tissue culture, immunocytochemistry, radioimmunoassay, and isotope detection. These are powerful and increasingly important tools for gaining insight into events underlying function at the cellular level. Importantly, the development of critical masses of students and investigators in each of these areas has provided us the opportunity to bring new concepts of cell physiology and biophysics into the general courses in physiology and biophysics offered to undergraduate and professional students throughout the University and to an increasing number of graduate students focusing their activities and interests in cell biology.

The new areas of research have been designed to complement traditional areas of interest within the Department, including environmental physiology, exercise physiology and cardiovascular physiology. Interaction among all areas within the Department, paralleled by many collaborative programs with other science and clinical departments at the University, provide an atmosphere of excitement and challenge for our research and teaching activities as we enter the 1980's.

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## **PREVENTIVE MEDICINE AND ENVIRONMENTAL HEALTH**

**E. PETER ISACSON, M.D.**  
Professor and Head

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In the 1970's this Department continued to concern itself with a variety of public health hazards. This effort is premised on a belief that a better understanding of population distribution of disease will lead to more logical measures of primary prevention by medical and public health practitioners.

One major accomplishment has been development of the statewide cancer registry which collects data on new cases of cancer. The registry is supported by the National Cancer Institute. Data from Iowa are compiled with those from 10 other areas throughout the coun-

try to calculate nationwide trends of cancer incidence and survival. The registry data also lead to epidemiologic studies into possible etiologic factors in cancer. Of particular interest for Iowans has been the finding that acute lymphatic leukemia in males occurs at significantly higher rates in northeastern Iowa. The association is strongest in counties with the highest number of dairy cattle and, in particular, with dairy cattle herds in which there has been a high rate of infection with bovine lymphosarcoma virus. This association has led to further studies of the possible transmission of bovine lymphosarcoma virus from cattle to man.

Aside from leukemias, other cancers have been shown to occur at higher than expected rates in Iowa farmers. Because of the higher exposure to sunlight, skin cancers are elevated. Unexpected and unexplained, however, has been the finding that Iowa farmers are at higher risk for prostatic cancer, brain cancer and multiple myeloma.

The Iowa Community Pesticides Program continued its studies of the possible adverse effects of pesticides on human health. Cases of acute toxicity have been carefully documented and catalogued so exposure conditions responsible for the acute toxicity can be understood and modified. The important question of whether pesticides can induce chronic disease in man has been approached by long-term follow-up of agricultural workers exposed to different levels of pesticides. There are so many problems inherent in this type of study that no definitive conclusion can now be reached. However, the follow-up studies have not as yet provided any evidence of chronic disease following prolonged exposure under normal working circumstances.

Although not a problem in the United States, schistosomiasis remains the leading worldwide cause of death. It is noteworthy that some of the most striking advances in prevention are being made at The University of Iowa. In the laboratories of Drs. S. Y. and H. F. Hsu, an irradiated cercarial vaccine has been developed which induces significant resistance to infection in lower primates and rodents. Future plans include a field trial of the vaccine in cattle in the People's Republic of China.

Problems in health care organization and delivery have also been a concern of this Department. Together with the College of Phar-

macy, the Department conducted a study to evaluate changes in pharmacists' dispensing behavior and the consequent impact on drug expenditures when the conventional fee-for-service system for reimbursement of pharmacists was replaced by a capitation system. The fee-for-service system under Medicaid usually covers ingredient costs plus a fixed professional dispensing fee. The capitation system provides a cash payment per Medicaid eligible patient at the first of each month, which varies by aid category and season of the year. The results indicated cost-efficient changes in the pharmacists' dispensing behavior, under capitation, without sacrificing the quality of drug therapy. A positive impact on Medicaid program expenditures was also observed.

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## PSYCHIATRY

GEORGE WINOKUR, M.D.  
Professor and Head

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Like Rip Van Winkle, biological research in psychiatry was in a state of suspended animation for a long time. By the decade of the 70's, there had been a vigorous awakening and this was reflected in the Department of Psychiatry at The University of Iowa.

One example of our contributions is in research on anxiety neurosis, a common illness seen by cardiologists, internists, family practitioners and psychiatrists. Research in the Psychiatry Department concerns the clinical picture and follow-up of anxiety neurosis. Secondary depressions are common in the course of the illness. Family studies have indicated a strong possibility of dominant gene transmission. A joint psychiatry-cardiology project shows that mitral valve prolapse is seen commonly in patients who have the diagnosis of anxiety neurosis. Treatment studies have shown some moderating effect from beta-adrenergic blockers.

Another set of studies deal with depression. Certain kinds of depressives (those with a family history of depression) are likely to have abnormal endocrine status; specifically they are abnormal suppressors on the dexamethasone suppression test. If a depressed patient has alcoholism in the family, suppressor status is normal. The dexamethasone suppression test has considerable value in that an abnormal suppressor reverts to normal suppressor status on getting well. Thus, if there is some



difficulty in assessing the clinical state, such a test may tell whether the person is still in need of treatment.

Another area of progress has been in studies on mortality and psychiatric illness. Schizophrenics, depressives, and manics all have higher mortality rates in follow-up than are seen in a control group. Further, all three of those entities are more likely to show suicide. In depression, a large study indicates that adequate treatment with antidepressants or with ECT is likely to be associated with a lower mortality than either inadequate treatment or no treatment at all. ECT appears to be the most effective treatment for a seriously depressed person and is more likely to prevent suicide attempts at follow-up than either antidepressant medication or no treatment.

There also have been significant studies in the epidemiology of alcoholism, epidemiology and genetic studies in schizophrenia, mania and depression, hyperactivity in children, early infantile autism, delinquency, forensic problems, group therapy, the biology of depression, the serotonin pathway, the relation of glia to neurotransmitters and genetic linkage studies in a variety of depressive subgroups and schizophrenia, and psychopharmacological treatment in psychiatric illnesses. Publications within the Department are numerous and national support is common for the researchers.

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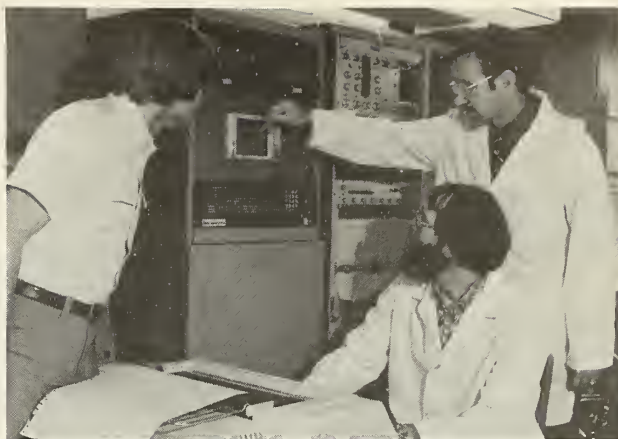
## RADIOLOGY

**EDMUND A. FRANKEN, Jr., M.D.**  
Professor and Head

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The major event in Diagnostic Radiology in the last decade has been the development of alternate modes of imaging, particularly computerized tomography (CT), nuclear medicine and ultrasound. In 1972, Hounsfield of the EMI Company in Great Britain developed the first CT unit, an accomplishment for which he was awarded the Nobel Prize in medicine. The University of Iowa was fortunate in being one of the first institutions to obtain a CT unit, with installation in 1973. CT was initially limited to studies of the head and brain. However, in 1976 units were developed for study of the remainder of the body. Again Iowa was among the first to install such a machine.

Because of our early involvement in CT, the Department of Radiology at The University of



**NEW TECHNOLOGY** — Examination of gait patterns as displayed on a laboratory computer in physical therapy.

Iowa has been a major resource in the development of the uses of this modality. Besides the many publications concerning CT from our faculty, Dr. Rolf L. Schapiro, became the editor of *THE JOURNAL OF COMPUTERIZED TOMOGRAPHY*. Dr. Lee C. Chiu, and Dr. Schapiro have developed the standard textbook on CT anatomy. With the efforts of these individuals, and others in the Department, The University of Iowa has become a focus for understanding CT anatomy and relating it to disease, and for determining the place for CT in the armamentarium of radiologists.

Another area in which University of Iowa Radiology has excelled in the last decade is the development of the subspecialty of head and neck radiology. Drs. Kenneth Dolan and Charles Jacoby, with close coordination with clinical specialists in the various head and neck areas, have been able to delineate many new roles for radiologic diagnosis in this important area. Examples include the new and varied uses for radiology in the evaluation of head and neck trauma and for detection and staging of tumors.

The role of nuclear medicine in heart disease was recognized in the 1970's, and nuclear cardiology boomed here. Drs. James Christie, James Ehrhardt, and Raymundo Go, along with cardiology faculty, developed many of the techniques used for nuclear cardiology and determined their significance in study of the heart.

In therapeutic radiology, the 1970's was the decade of big machines. Thus, powerful linear accelerators and new developments in computing science for radiation planning allowed

Department faculty to offer radiotherapy in many complicated tumor cases previously untreatable. Correspondingly such treatment and allied basic research extended knowledge of the effects of radiation on living tissue.

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## SURGERY

**SIDNEY E. ZIFFREN, M.D.**  
Professor and Head

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*General Surgery.* A completely reversible operation for the treatment of obesity has been developed by Dr. Edward Mason. The operation limits the intake of food without interfering with digestion and absorption. This is done by partitioning the stomach into a small upper segment of approximately 50 ml capacity and an outlet of 10-12 mm in diameter. The mortality rate has been reduced to below 2%. Patients between 20 and 50 years of age weighing more than twice the estimated ideal weight lose on the average 30% of their initial weight and 55% of excess weight or 40 kg. Diabetes, high blood pressure, musculoskeletal pain, varicose ulcers, hernias and gallstones are all improved or treated more effectively along with the operative treatment of superobesity. Over 850 of these operations have been done at The University of Iowa Hospitals. Increasing numbers of these operations are being done by surgeons throughout Iowa, the United States and the rest of the world.

*Cardiac Surgery.* Techniques have now been developed to permit operating safely in infants below 2 years of age who have congenital heart defects. Instead of palliative surgery, total correction of the defects is the goal and has been largely successful. In adults myocardial protection techniques permit surgery to be done on more complex cases without myocardial damage and with significantly lower mortality rates. Cardiac valve designs, although not perfect, are now greatly improved over what was available in the previous decade.

*Neurosurgery.* New assay techniques determine the level of circulating pituitary hormones and roentgenographic techniques demonstrate minute abnormalities of the sella turcica. These techniques enable the diagnosis of small hormone-secreting pituitary tumors of less than 10 mm in diameter. The surgical technique of extracranial operative treatment by the transeptal sphenoidal approach provides

safe exposure of the pituitary gland and allows total removal of the tumor from the gland with the operating microscope. The excessively secreted hormone returns to the physiologic levels. Pathologic entities such as Cushing's disease, acromegaly and infertility from ovulation failure, secondary to excessive prolactin hormone secretion, have been successfully treated by this technique.

In patients with intracranial arterial lesions previously considered surgically inaccessible, the branches of the external carotid artery have been used for direct vascularization of ischemic areas of the brain, anastomosing the extracranial vessel by intracranial anastomosis.

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## UROLOGY

**DAVID A. CULP, M.D.**  
Professor and Head

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Continuing its long-term interest in the management of all stages of adenocarcinoma, the Department of Urology introduced perineal cryosurgery as a means of controlling the large local pelvic lesions encountered in stages C and D and initiated investigation into possible immunologic mechanisms by the freezing. Basic research into these and other mechanisms has been aided tremendously by the use of R-33,27 Rat Laboratory Model.

Collaborative studies of both prostatic adenocarcinoma and bladder cancer have offered chemotherapeutic measures for management of these two neoplasms that would not have been otherwise available. In addition, the Department of Urology was requested by the National Cancer Institute to conduct an epidemiologic survey of all new bladder cancer seen in one year within the State of Iowa. This was done to determine whether inciting causes could be identified and whether, in particular, artificial sweeteners or saccharin bore a relationship to the incidence of bladder cancer. The results of this study are now being compiled for presentation to Congress to aid in the development of controlling legislation.

Other urologic developments initiated in the past decade have included the establishment in conjunction with the gynecologists and endocrinologists of an Andrology Clinic, the introduction of new operative techniques for impotence and infertility, and most recently an evaluation of the feasibility of a sperm storage bank.



# The Medical Curriculum — From the 70's Into the 80's

GEORGE L. BAKER, M.D.

Iowa City, Iowa

FROM 1966 to 1969, the course of medical study at The University of Iowa was reviewed in great depth. Iowa at that time had a sound curriculum which reflected the qualities of the school and the faculty. Student schedules had become full, however, as courses expanded and clerkships became more intense to provide more patient care experience. All 4 years were scheduled heavily with required courses, leaving little time for electives. Physical diagnosis and laboratory diagnosis courses were offered in the same semesters as the basic science courses, a situation which many students and faculty found unsatisfactory.

## THE PAST

A new curriculum was proposed, adopted and implemented after extensive study and 2 years of collecting data from the existing program of medical education.

Some of the major changes included: (a) restructuring the first 2 years so all basic science courses could be offered in a 3-semester sequence; (b) development of a new semester-long course, Introduction to Clinical Medicine, which combined the clinical lecture series, the physical diagnosis course and the laboratory diagnosis course into one unified semester; (c) concentration of all required clinical clerkships into an expanded third year, and (d) provision of a fourth year which the student and his/her

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*What was it like when you were there? Is it better? Probably! The new curriculum of the U. of I. College of Medicine moved from infancy to maturity in the 1970's. It's still under ongoing refinement. Parts of it have been emulated elsewhere. It's highlighted here.*

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advisor could design according to the student's own career goals.

The new curriculum included several new interdisciplinary courses. The most extensive of these was Introduction to Clinical Medicine, covering the entire fourth semester and involving about 200 faculty members. Neurobiology and Human Behavior, Endocrinology, and Scientific Method were other new interdisciplinary offerings.

## FOURTH YEAR

Perhaps the most successful part of the Iowa curriculum has been its fourth year. In that year students take courses upon which they have agreed with their advisors. Because they participate in the selection, enthusiasm is higher than under the old curriculum. Students regularly schedule several more weeks of work than is required, and their requests for courses have stretched the resources of the college in numerous areas. Many students take off-campus work during this year, especially in clinical settings around the State of Iowa. Students work in clinical electives throughout the Midwest, elsewhere around the country, and even abroad.

Initially, it was thought most students would divide the fourth year between clinical and graduate coursework. As the curriculum has evolved however, most spend the entire year in clinically related courses, and only a few in graduate coursework.

Dr. Baker is Associate Dean for Student Affairs and Curriculum at U. of I. College of Medicine.

### THREE VS. FOUR YEARS

Early in this decade there was a national push to move medical schools to 3-year programs. Most schools adopting this change did so by deleting all vacation periods. The generally perceived result was student and faculty fatigue, as well as a lack of time for research and clinical programs such as MECO and preceptorships. By the end of the decade, most medical schools were on 4-year schedules, including several new schools designed from their inception as 3-year programs. Iowa considered the 3-year proposals carefully and decided against moving to this length of study. Time has proved that to have been a wise decision.

### OUTCOMES

Physicians who select graduates of The University of Iowa College of Medicine for residencies and who work with them as colleagues adjudge them to have had a sound, effective educational experience. The graduates themselves grade their education as excellent, when queried at the time of their graduation, following their first year of residency, and 5 years after graduation.

Almost simultaneously with its implementation in 1969, the curriculum began to evolve, and is still continuing to do so under the guidance of the Committee on Medical Education. As curriculum concepts were developed into actual courses, they reflected the style and emphasis of those faculty members teaching them.

Over the years, the content of interdisciplinary courses has tended to revert back to the parent discipline, and thus Endocrinology and Neurophysiology are now taught in Medical Physiology. Introduction to Clinical Medicine is a major exception to this trend. It has developed into one of the most successful courses of its kind in the nation, and many aspects of it have been adopted by other medical schools.

Comparative evaluations of students in the old and the new curricula confirmed their faculty's predictions. Those in the new curriculum demonstrated a stronger knowledge base, their clinical skills were improved at an earlier stage of their education, and the new sequence of courses pleases students and teachers alike.

### THE CURRICULUM TODAY

The first three semesters of work are comprised of Basic Science courses: Gross, Microscopic and Neuro-Anatomy; Biochemistry, Physiology, Microbiology, General and Systemic Pathology, Pharmacology, and Community Health.

The fourth semester is entirely filled by Introduction to Clinical Medicine, with didactic and practical work in communication skills, history taking and physical diagnosis. There is an extensive review of organ systems as well as segments in Human Sexuality and Behavior, Law, and Ethics. Special training is given in the examination of the newborn, the toddler, the neurologic patient, the female pelvis and breast, the male genitalia and rectum.

The third year includes a 9-week clerkship in Internal Medicine, 6-week clerkships in Pediatrics, Surgery, Psychiatry, Obstetrics and Gynecology, and 2-week clerkships in Urology, Otolaryngology, Orthopaedic Surgery, Dermatology, Neurology, Anesthesiology, and Primary Care preceptorships. More than 95% of the third-year work is given at the medical center in Iowa City.

Eighty-five to 90 per cent of the Iowa graduates secure a residency in one of their first 3 choices of departments, and 55-80% are awarded their first choices. This high success rate applies equally to those entering academic careers and those entering primary care, community-based residencies.

### THE FUTURE

The decade of the 1970's has involved refining the curriculum, finding more ways to assure a high quality, personalized educational experience to 700 students each year, and moving to meet new needs.

In the decade ahead, the basic medical curriculum will continue to receive careful attention from the Medical Education Committee, comprised of students and faculty from all segments of the college. Recently added content in the areas of health economics, cost containment, nutrition, and human behavior will be evaluated. Expanded offerings in therapeutics, emergency medicine, geriatrics, and genetics are under consideration at this time. Undoubtedly, new areas of concern and interest will arise in the future. Thus the evolutionary process will continue.





## COMMENTING EDITORIALY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### MEASLES OR MEASLES- ASSOCIATED ILLNESS

Smallpox has been eradicated from all nations in the world. As a routine procedure, use of smallpox vaccination is no longer indicated. On the other hand, measles eradication was anticipated following introduction of measles virus vaccine in 1963. However, this has not occurred, and reports indicate that subclinical or mild reinfections occur resulting in many cases of measles going unrecognized.

A recent report by Drs. Laverne Wintermeyer and Martin G. Meyer\* from the Iowa State Department of Health, and the Division of Infectious Diseases, Department of Pediatrics, University of Iowa Hospitals, surveyed an outbreak of measles and a measles-associated disease that appeared simultaneously in a partially immunized community (Eagle Grove, Iowa). It was shown during the epidemic, which occurred in December, 1976, that some of the affected children had classic measles while others had a variability of their illness that would have been confusing if there had not been a typical outbreak of measles at the time. Those children had varying degrees of fever, cough, rash, and conjunctivitis. The shape of the epidemic curve for the two entities suggested a single etiology.

Fifty-six children previously ill with measles became ill during the epidemic. Thirteen per cent of children previously immunized with measles vaccine and 56% of the unimmunized children developed an illness characteristic of

measles. Many of the children who were immunized, as well as those unimmunized, developed the "measles-associated" disease. The proportion of immunized and unimmunized children who developed the "measles-associated" illness was not statistically different; and the characteristics of the illness in both groups were not different.

It is concluded that some who have been immunized have incomplete immunity. Questions have arisen about the ideal age for administration of measles vaccine. In past years, immunization was advocated in children 9-12 months of age; later as a routine at 12 months of age. It is now considered inadvisable to administer measles vaccine prior to 15 months of age. Perhaps at a later date with further data, that age may prove premature. It is obvious we still have incomplete knowledge about the total effectiveness and lasting immunity provided by measles (and perhaps rubella and mumps) vaccine. Further investigations such as this one are needed. Vaccination must continue nevertheless, with appropriate modifications of the time schedule as dictated by future observations. — M.E.A.

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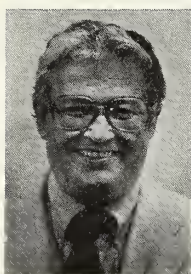
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\* Wintermeyer, Laverne *et al.*: Measles in a partially immunized community. *Am. J. Public Health*, 69:923-927, September, 1979.



## QUESTIONS - ANSWERS

L. D. CARAWAY, M.D.  
AMANA, IOWA

### IMS HOUSE OF DELEGATES

*Dr. Caraway is the veteran Speaker of the IMS House of Delegates. He will direct operations of the House when it meets in Des Moines May 3-4. He comments here about the importance of participation by the delegates — and all interested IMS members.*

**The 1980 session of the Iowa Medical Society House of Delegates is a few weeks away. What do you consider the really important functions of the House?**

The House of Delegates is the backbone of our democratic process within the Iowa Medical Society. And the nerve center within the House is the reference committee. It is before these bodies that "grass roots" input has its day. I would say those physicians who serve on reference committees are the Society's unsung heroes.

**What are the functions of the reference committees?**

In open hearings, these committees receive comments and information on the resolutions and reports which have been submitted to them. These resolutions come from county medical societies and the reports are submitted by organizational bodies within the IMS structure. Each reference committee listens to the comments of all interested physicians (the hearings are open to any member). The committees then prepare reports reflecting the testimony. They are presented to the full House of Delegates where they can be approved, re-

jected or amended. The end product becomes the policy of the Iowa Medical Society.

**Who makes up the reference committees?**

Physician delegates are appointed to these committees by the Speaker of the House with advice from the Vice-Speaker, Secretary-Treasurer and administrative staff. We try to "balance" the reference committee membership based on geography, rural versus urban, specialty representation, younger versus experienced delegates. We believe it is an interesting experience for those who serve.

**How do you get on a reference committee?**

Number one, become a delegate in your county society. Then demonstrate an interest in getting involved in society activities. Then simply let the Speaker know of your desire to serve. Reference committees consist of a chairman and 4 members. Those asked to serve are informed of their precise committee assignment at the opening of the session; the chairmen are informed of their assignments when they accept; these procedures tend to enhance objectivity.

**Who can attend the House and reference committee sessions?**

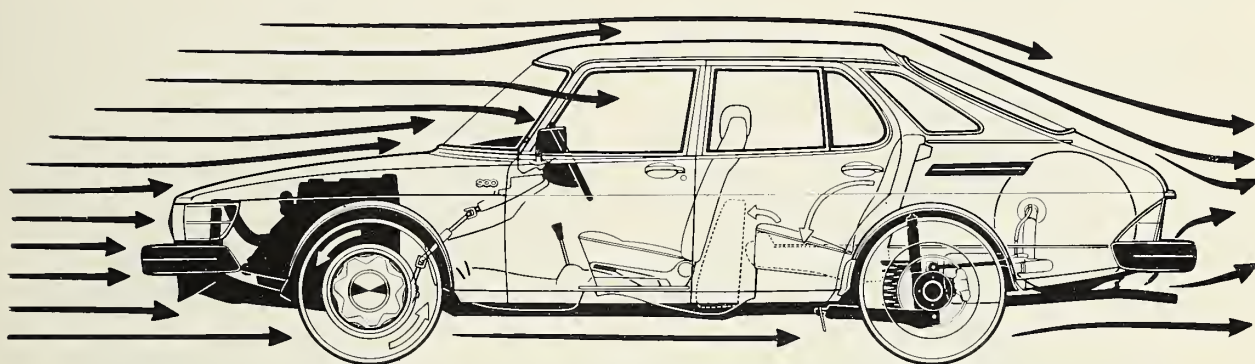
All members are welcome and encouraged to attend any of the sessions, especially the reference committee hearings. There is ample opportunity to speak on the issues as an individual physician or as the representative of an organization. This is where local opinion is incorporated into House action. Members are welcome in the House, but may not speak on the floor unless they are seated as county delegates.

**How has county delegate attendance been in recent years?**

It could be much better. Even with expansion of the House, attendance increased very little. It is ironic that many delegates from smaller counties who spoke vigorously against any change in House composition to achieve improved participation have never been back. Generally, the more populated counties have better representation, although there are many active and loyal small county delegates. We would encourage all counties to elect delegates who are interested and encourage them to participate.



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never been anything but aerodynamic, owing, perhaps, to the fact that the very first Saabs were designed by aircraft engineers—engineers working unencumbered by preconceived notions of how cars should be styled.

In these times, no other measurement of a car's shape truly ought to matter.

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# Appreciation to Physician Preceptors

THE UNIVERSITY OF IOWA College of Medicine extends sincere appreciation to the 165 Iowa physicians who served last year (7/1/78 to 6/30/79) as preceptors for third- and fourth-year medical students and for students in the Phy-

sician's Assistant Program. These preceptorships are an important element in the outreach effort of the College. They permit students to observe first-hand a medical practice away from the academic setting.

## 1978-79 PRECEPTORS FOR THIRD YEAR PRECEPTORSHIP

### Served Students from Class of 1980

Akran .....	Joseph Trozig, M.D.
Algona .....	Jahn Schutter, M.D.
Ames .....	Kennedy Fawcett, M.D., George Mantgamery, M.D.
Anamasa .....	Jahn Bailey, M.D.
Ankeny .....	Radney Carlson, M.D.
Atlantic .....	Jahn Weresh, M.D.
Bettendorf .....	William McCabe, M.D.
Baane .....	Jahn Anderson, M.D. (2), Jahn Murphy, M.D. (3), Wayne Rause, M.D. (2)
Britt .....	Norman Thede, M.D.
Burlington .....	William Anderson, Jr., M.D., George Gundrum, M.D., Harry McMurray, M.D. (2)
Cedar Falls .....	Philip Rahrbaugh, M.D. (3), James Young, M.D.
Cedar Rapids .....	Arthur Barnes, M.D., John Jacobs, M.D., Thomas Schraeder, M.D., Robert Swaney, M.D., Mark Tyler, M.D. (2)
Clarinda .....	Kenneth Jensen, M.D.
Clinton .....	George Yark, M.D.
Caralville .....	Philip McLaughlin, M.D., Charles Skaugstad, M.D. (2)
Cauncil Bluffs .....	Yuksel Inankur, M.D.
Creston .....	Larry Goetz, M.D.
Davenport .....	Atlee Hendricks, M.D. (2)
Denison .....	Donald Soll, M.D.
Des Moines .....	Robert Anderson, M.D. (3), James Blessman, M.D. (3), Dan Green, M.D. (2), Charles Gutenkauf, M.D., Donald McBride, M.D.
Dubuque .....	John Chapman, M.D., Darryl Mozena, M.D., William Province, Jr., M.D. (2)
Emmetsburg .....	James Caffey, M.D., Carlyle Moore, M.D. (2)
Estherville .....	Jahn Powers, M.D. (2)
Fairfield .....	James Dunlevy, M.D., Gene Egli, M.D. (2)
Farest City .....	Robert Haakensan, M.D. (2)
Fart Dodge .....	Richard Brandt, M.D., Daniel Cale, M.D., Forrest Donnenbring, M.D., John Sear, M.D.
Grinnell .....	Robert Carney, M.D., James Paulsan, M.D. (3), Bernhard Wiltfang, M.D.
Guttenberg .....	Eugene Downey, M.D. (2)
Hamburg .....	Frederic Ashler, M.D.

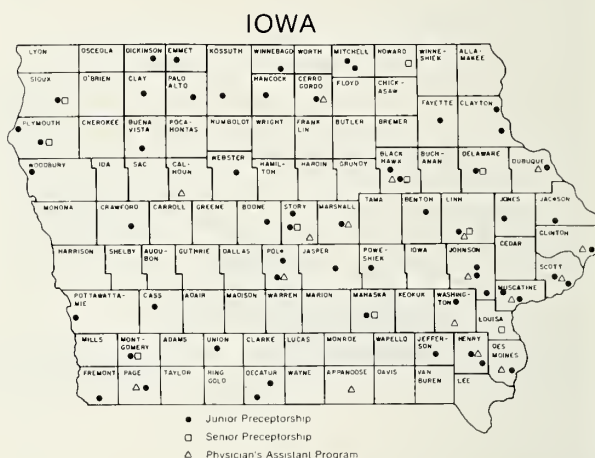


Figure 1 above shows the community locations of physicians who served as preceptors for the 3 groups of students.

Iowa City .....	Victor Edwards, M.D. (5), Nyle Kauffman, M.D. (2), Larry Rigler, M.D. (5), Thomas Rosenberger, M.D. (2), Mitchell Ruffcorn, M.D. (7), Wayne Tegler, M.D. (2), Peter Wallace, M.D.
Kalona .....	Charles Beckman, M.D., Dwight Sattler, M.D. (5)
Lamani .....	Norman Nelsan, M.D.
Le Mars .....	Daryl Daarenbas, M.D., Danald Faber, M.D., James Powell, M.D.
Lean .....	Thomas McMillan, M.D.
Lane Tree .....	Keith Mills, M.D.
Manchester .....	Mary Arends, M.D. (3)
Maquoketa .....	John Broman, M.D., Paul Brown, M.D.
Marshalltown .....	Charles Bendixen, M.D., Milton Van Gundy, M.D.
Mason City .....	Wilmer Garrett, M.D., William Rasenfeld, M.D., George West, Jr., M.D. (2)
McGregar .....	Donald Pfeiffer, M.D. (2)
Mt. Pleasant .....	Phillip Couchman, M.D. (4), Warren Scott, M.D.
Muscatine .....	Farrest Dean, M.D.
New Landon .....	Harry Readinger, M.D.
Newton .....	Kim Petersen, M.D.
Orange City .....	Carl VanderKooi, M.D.
Osage .....	Robert Heise, M.D., Mark Steine, M.D.
Oskalaasa .....	Danald Campbell, M.D., R. Michael Callisan, M.D.
Red Oak .....	William Artherholt, D.O. (5)
St. Ansgar .....	William Owen, M.D.

Figures in parentheses show number of students if more than one.



Siaux City .....	Edward Van Bramer, M.D.	Waterloo .....	Michael Deters, M.D., Robert Morrison,
Spencer .....	Jahn Kelly, M.D.		M.D., Ronald Rath, M.D., Thomas
Spirit Lake .....	Donald Radawig, M.D.		Spragg, M.D. (2)
Starm Lake .....	Arthur Ames, M.D., Gary Olson, M.D. (2)	West Liberty .....	Haward Palmer, M.D., Steven Palmer,
Story City .....	Craig Chappel, M.D.		M.D. (3)
Vinton .....	D. C. Weideman, M.D.	West Union .....	Larry Boeke, M.D.

## 1978-79 PRECEPTORS FOR FOURTH YEAR ELECTIVE PRECEPTORSHIP

Served Students from Class of 1979

Ames .....	William McCormack, M.D., Paul Kaellner, M.D.	Cresca .....	Peter Kepros, M.D.
Cedar Rapids .....	Robert Swaney, M.D. (2), Mark Tyler, M.D.	Le Mars .....	Donald Faber, M.D.
		Manchester .....	Jahn Tyrrell, M.D.
		Orange City .....	Carl VanderKaai, M.D.
		Oskaloosa .....	R. Michael Callison, M.D.
		Red Oak .....	William Artherhalt, D.O. (2), Jack Fickel, M.D.
		Wapella .....	Leslie Weber, M.D.
		Waterloo .....	Thomas Spragg, M.D.

## 1978-79 PHYSICIAN'S ASSISTANT PROGRAM PRECEPTORS

Baxter .....	Jahn Gustafson, M.D.	Iowa City .....	Raphael Chung, M.D., Albert Cram, M.D., David Culp, M.D., Gerald DiBana, M.D., Frederick Dunner, M.D., Douglas Laube, M.D., Michael Mickelson, M.D., James TenBraeke, M.D., Thomas Vargish, M.D.
Burlington .....	J. L. Saar, M.D.	Lake City .....	Jahn Ely, M.D.
Cedar Rapids .....	W. J. Robb, M.D.	Marshalltown .....	Franca Chua, M.D., Daryll Eggers, M.D., Carl Lester, M.D., Axel Lund, M.D., Donald Reading, M.D., Solomon Werch, M.D.
Centerville .....	Anthony Owca, M.D.		
Clarinda .....	Kirpal Singh, M.D.	Mason City .....	Marie Alcorn, M.D., Richard Dunker, M.D., W. G. Garrett, M.D., Richard Munns, M.D.
Clinton .....	Alfonso Torres, M.D.	Mt. Pleasant .....	Jayant Belsare, M.D., Curtis Fredrickson, M.D., Albert Kaplan, M.D., Harald Rankin, M.D.
Davenport .....	Gardan Cherwitz, M.D., Eugene Jahnsan, M.D., Jahn Sinning, Jr., M.D., Forrest Smith, M.D.	Muscataine .....	Forrest Dean, M.D., David Kundel, M.D.
Des Moines .....	Michael Abrams, M.D., Albert Bastram, M.D., R. C. Floren, M.D., John Hess, M.D., David Kaung, M.D., Un Bang Lee, M.D., Donald Lulu, M.D., Randall Maharry, M.D., A. P. Neptune, M.D., Loran Parker, M.D., F. Eberle Thornton, M.D., Dennis Walter, M.D.	Washington .....	Chung Tam, M.D.
Dubuque .....	Allen Harves, M.D., Paul Laube, M.D., Robert Melgaard, M.D.	Waterloo .....	William Kelly, M.D., Dale Phelps, M.D., Ronald Roth, M.D., Luke Tan, M.D., Robert Singer, M.D.

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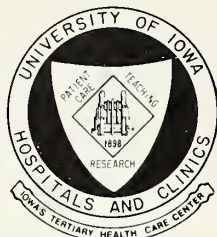
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## DRUG THERAPY REVIEW



## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

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REYNOLD SPECTOR, M.D., Editor

*Editor's Note — In recent years knowledge about rational drug therapy has expanded significantly. This series of articles will provide the practicing physician with concise, topical reviews of drug therapy.*

### CHEMOTHERAPY OF PROSTATIC CANCER

Prostatic cancer is the most common cancer in U.S. males. Seventeen per cent of new malignancies discovered in males are cancer of the prostate (NCI, 1976). Ten per cent of deaths from cancer in males are due to cancer of the prostate. As a total number, it was estimated that in 1976, 56,000 new cases of cancer of the prostate were diagnosed. For Iowa the number was 1,100. Of these 1,100 new cases, 350 patients will die of their disease.

Prior to 1941, palliation for disseminated disease was limited to analgesics. In that year Huggins and Hodges<sup>1</sup> reported successful palliation of advanced prostatic carcinoma using orchiectomy and/or estrogen therapy. Unfortunately, many patients with carcinoma of the prostate are either unresponsive initially or ac-

quire late unresponsiveness to hormonal manipulation. For these patients, alternative methods of therapy have been sought. In 1967, the Veterans Administration Cooperative Urological Research Group<sup>2</sup> presented their 5-year prospective data on more than 2,000 patients with prostatic carcinoma. These data challenged the ability of hormonal therapy to increase survival.

When discussing further treatment options for prostatic cancer, a variety of approaches in addition to the above-mentioned hormonal manipulation have been developed: 1. radical surgery (total perineal prostatectomy, total retropubic prostatectomy), 2. radiation (local interstitial, external radiation), 3. surgery plus radiation (interstitial—radioactive gold, radioactive iodine), 4. surgery plus adjuvant chemotherapy, and 5. chemotherapy.

#### SURGICAL THERAPY

Surgical treatment for cancer of the prostate can include transurethral resection of the prostate, radical prostatectomy (prostate and seminal vesicles), pelvic lymphadenectomy, combined surgery and interstitial radiation (Au 198, radioactive iodine), and cryosurgery. The process of outlining the most appropriate treatment program for the patient must be considered within the context of his expected survival. This may necessitate staging the prostatic cancer and include estimations of serum acid and alkaline phosphatases, LDH isoenzymes, KUB and IVP, bone survey, bone scan, bone marrow biopsy, lymphangiogram and pelvic lymph node dissection in addition to the usual biopsy methods, which are transperineal or transrectal needle biopsy. The clinical staging corresponds to the classification of Whitmore (A, B, C, D). In patients with stage A disease, the prostate on rectal examination feels completely normal, and the prostatic cancer represents an incidental finding in the specimen of transurethral resection of the prostate. If this cancer only represents a focal lesion, then the patient has a life expectancy similar to that of the average person. The patient with stage B disease has a palpable nodule in his prostatic tissue on rectal examination. Here the 5-year life expectancy is 20% for the patient not being treated with surgery or radiation treatment. The patient with stage C disease has a diffusely nodular prostate with pro-

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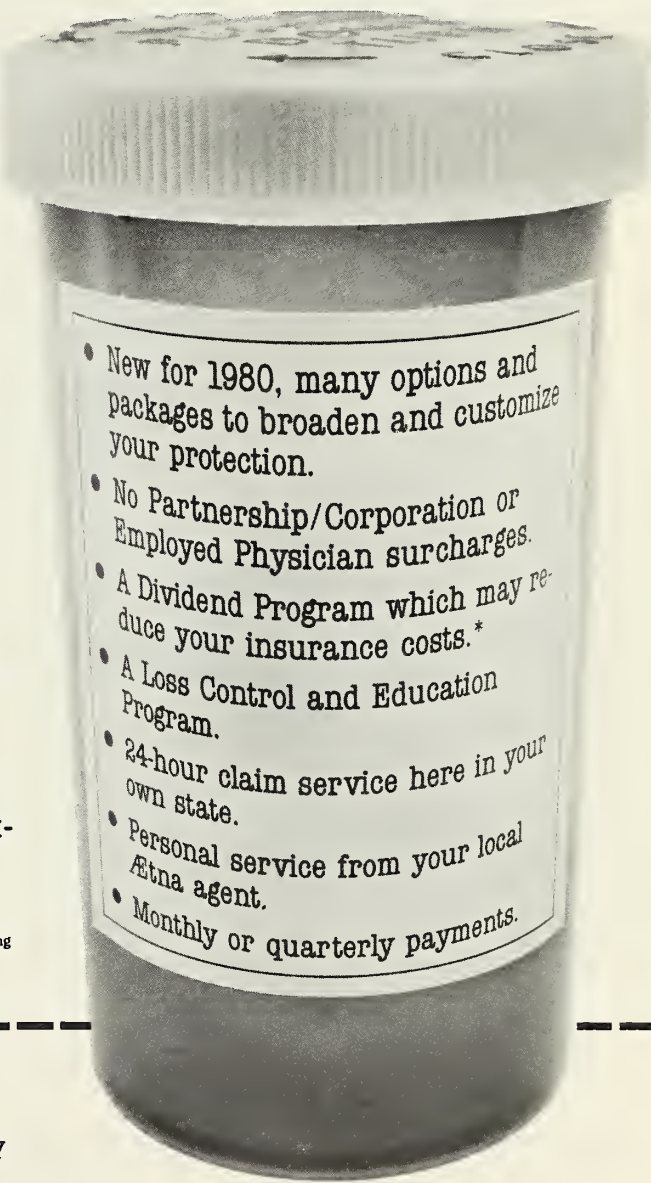
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tatic cancer extending into the seminal vesicles. The patient with stage D<sub>1</sub> disease has prostatic cancer with regional pelvic lymph nodes involved, and the patient with stage D<sub>2</sub> has widespread metastatic disease.

For stage A lesions, a transurethral resection of the prostate may be sufficient treatment. Radical prostatectomy is indicated for clinical stage B lesions. Extended radical prostatectomy is used in our institution in stage C lesions where the majority of the local lesion is removed and the remaining locally invasive tumor destroyed by electrocoagulation under direct vision. Radioactive gold is injected into the resection margins for both stage B and C lesions. Cryosurgery has been useful in the local destruction of stage D and the large stage C lesions and has been very effective for palliation.

#### RESULTS OF CHEMOTHERAPY: PAST CLINICAL TRIALS

In 1972, the National Prostatic Cancer Project (NPCP) embarked on a program of clinical trials to evaluate the efficacy of chemotherapy in patients with advanced disease (stage D<sub>2</sub>) who have become refractory to hormonal treatment. Patients randomized to these trials had to have histologically confirmed metastatic cancer of the prostate which was clinically progressive after orchiectomy and treatment with exogenous estrogens. Patients without prior irradiation of the pelvis went into one protocol, and those with more than 2,000 rads to the pelvis went into another. Over 1,000 patients have been entered into these studies as of January 1979. The following medications have received in-depth evaluation: fluorouracil (5-FU), cyclophosphamide (Cytosan<sup>®</sup>), estramustine phosphate (Estracyt), streptozocin (streptozotocin), procarbazine, dacarbazine (DTIC<sup>®</sup>), prednimustine (Leo-1031), hydroxyurea, semustine (Methyl-CCNU) and vincristine. When evaluating cyclophosphamide and 5-FU, some patients received either cyclophosphamide, 5-FU, or no chemotherapy. Partial regressions were seen only in the two groups of patients that received chemotherapy.<sup>3</sup> Cyclophosphamide resulted in less toxicity reflected by fewer dose interruptions and dose reductions than did 5-FU. Cyclophosphamide had an advantage over 5-FU both in response level and in tolerable side effects and, therefore, was selected as a future standard for subsequent trials.<sup>3</sup>

The second group of patients were those who had more than 2,000 rads of radiation to the pelvis as part of their previous treatment. This group of patients could not tolerate antineoplastic agents with myelosuppressive activity. For this trial, estramustine phosphate, a nitrogen mustard derivative of estradiol, and streptozocin were compared with standard forms of treatment. The response rate for the two groups of patients who received chemotherapy was similar except that partial regressions were documented only with estramustine phosphate.<sup>4, 5, 6</sup> Estramustine phosphate had an advantage over streptozocin in the patients' overall subjective response.<sup>4</sup> This was due primarily to weight gain. Both drugs give similar pain relief and improvement in performance status. The evaluation of dacarbazine, procarbazine and prednimustine revealed no advantage over the previously studied drugs (estramustine phosphate and cyclophosphamide).<sup>5, 6</sup>

#### INDICATIONS FOR CHEMOTHERAPY AT PRESENT: DRUGS IN CURRENT USE

##### *Standard Therapeutic Regimens*

Historically the standard treatment for patients with stage D<sub>2</sub> disease has consisted of orchiectomy, then estrogens (diethylstilbestrol [DES], chlorotrianisene [Tace<sup>®</sup>]), and finally chemotherapy. It has, however, been shown that hormonal manipulation alone does not improve patient survival,<sup>2</sup> but it can lead to a dramatic reduction in tumor size and improve the patient's well-being. We feel it has been demonstrated by the NPCP studies on chemotherapy for advanced prostatic cancer that patients who fail hormonal therapy can benefit from treatment with single chemotherapeutic agents. The benefits include measurable primary tumor reduction, other objective responses, concomitant subjective responses, and prolonged survival. Combination chemotherapy so far has not shown any advantages over single agent chemotherapy. However, it seems reasonable to conclude that a patient with advanced disease (stage D<sub>2</sub>) will benefit most if a combination of hormonal therapy and chemotherapy is used. The most active chemotherapeutic agents are cyclophosphamide and estramustine phosphate. Cisplatin (cis-platinum), from preliminary studies, is a promising agent. Cyclophos-



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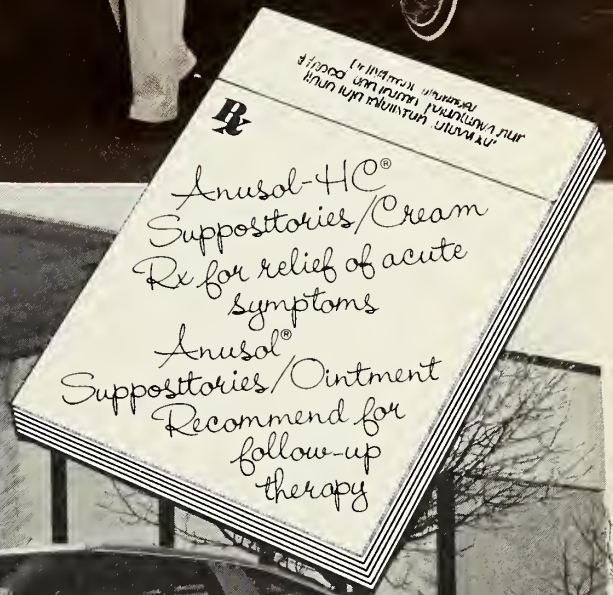
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**Description:** Each Anusol-HC Suppository contains hydrocortisone acetate, 10.0 mg; bismuth subgallate, 2.25%; bismuth resorcin compound, 1.75%; benzyl benzoate, 1.2%; Peruvian balsam, 1.8%; zinc oxide, 11.0%; also contains the following inactive ingredients: dibasic calcium phosphate, and certified coloring in a hydrogenated vegetable oil base.

Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg; bismuth subgallate, 22.5 mg; bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

**Indications:** Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, anal fissures, incomplete fistulas and relief of local pain and discomfort following anorectal surgery.

Anusol-HC Cream is also indicated for pruritus ani.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol® Suppositories or Ointment.

**Contraindications:** Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations.

**Warnings:** The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

**Precautions:** Symptomatic relief should not delay definitive diagnoses or treatment.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued and appropriate therapy instituted.

In the presence of an infection the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled.

Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Anusol-HC is not for ophthalmic use.

**Dosage and Administration:** Anusol-HC Suppositories — Adults: Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at

bedtime for 3 to 6 days or until inflammation subsides. Then maintain patient comfort with regular Anusol Suppositories.

**Anusol-HC Cream — Adults:** After gentle bathing and drying of the anal area, remove tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain patient comfort with regular Anusol Ointment.

**NOTE:** If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

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phamide is commercially available while estramustine phosphate, a product from Sweden, is in the process of being released by the NCI for general use.

#### EXPERIMENTAL PROTOCOLS

We and others are currently evaluating in controlled trials various drugs alone or in combination in patients with stage D<sub>2</sub> cancer of the prostate. These drugs include hydroxyurea, semustine, cyclophosphamide, vincristine, cisplatin, methotrexate, diethylstilbestrol, and estramustine phosphate. One limitation for the cure of advanced human cancer with chemotherapy may be an excessive tumor burden at the time of the initiation of treatment. Therefore, two other protocols for adjuvant treatment of localized prostatic cancer have been recently initiated by the National Prostatic Cancer Project. Estramustine phosphate and cyclophosphamide are being evaluated as adjuvant agents in patients who undergo pelvic lymph node dissection and total prostatectomy in comparison with patients who receive no additional treatment. In an additional adjuvant study using both radiation and chemotherapy, chemotherapy will be initiated within three days following completion of radiation therapy.

#### CLINICAL PHARMACOLOGY OF CYCLOPHOSPHAMIDE (CYTOXAN<sup>TM</sup>)

Chemical Name: n, n-bis(beta-chloroethyl)-N-O-propylenephosphoric acid ester diamide monohydrate. Formulation: Cyclophosphamide is supplied as a dry crystalline hydrate in 100, 200, and 500 mg vials. It should be protected from environmental temperatures above 90°F and stored in a cool area. The crystalline powder is dissolved in sterile water.

Cyclophosphamide is classified as an alkylating agent. It interferes with the growth of susceptible neoplasms. It is absorbed from the gastrointestinal tract and parenteral sites. The details of its metabolism are not fully known. Cyclophosphamide and its metabolites are excreted by the kidneys.

Anticipated toxicity: neutropenia with nadir at 8-12 days and recovery in 15-21 days, hemorrhagic cystitis, alopecia, nausea, and vomiting. Phenothiazine antiemetics may be given as prophylaxis for treatment of drug-induced nausea or vomiting. Patients receiving cyclophosphamide should have a high fluid

intake on the day of treatment to prevent cystitis. The cystitis can be severe, even fatal, and is probably due to metabolites in the urine. Hematuria usually resolves spontaneously within a few days after cyclophosphamide therapy is discontinued.

The doses of subsequent courses of treatment would be modified according to the white blood cell (WBC) and platelet count obtained every three weeks prior to treatment. Further dose modifications are necessary if the patient is receiving other myelosuppressive agents.

All patients except those with prior irradiation greater than 2,000 rads or those with extensive disease initially receive the starting dose of cyclophosphamide 1 gm/M<sup>2</sup> IV every three weeks. The doses of subsequent courses of treatment will be modified according to the WBC and platelet counts obtained every three weeks prior to treatment. Generally, patients with metastatic disease are maintained on cyclophosphamide therapy as long as they show benefit with tolerable side effects.

#### CONCLUSION

Results of the first nationally randomized trials of the National Prostatic Cancer Project revealed a demonstrable advantage for chemotherapy in the management of advanced prostatic cancer.<sup>3, 4</sup> Trials are being continued with single agents as well as combinations of agents. The use of chemotherapy as adjuvant therapy to definitive surgical or irradiation therapy is now being evaluated in two clinical trials. We believe that, with further evaluation, chemotherapy will lead to even more significant improvements in survival and care of patients with prostatic cancer. STEFAN LOENING, M.D., Associate Professor, Department of Urology

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# STATE DEPARTMENT/ PUBLIC HEALTH

## HOMEMAKER HOME HEALTH AIDE SERVICE

The first Homemaker Home Health Aide Service in Iowa was established in Des Moines in 1961. Additional programs were started in other counties over the next 10 years until homemaker home health aide services have become available throughout Iowa. These programs were developed with various organizational patterns ranging from independent non-profit agencies to being under the auspices of the Iowa Department of Social Services, the local board of health, a hospital, a visiting nurse association, the county board of supervisors, or a community action agency. Iowa physicians generally have been supportive of the development of this valuable service. In a number of locations they have taken a key leadership role to support and help guide the development of the local program.

As indicated, homemaker home health aide services are available throughout Iowa. If an individual does not know who provides the service locally a contact can be made with the public health nursing office or the Department of Social Services' office. In the great majority of cases, the homemaker home health aide service is under contract with the public health nursing agency to provide home health aide service under Medicare and Medicaid. It is thus possible for certain services for some patients to be paid for through these funding sources.

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

During the past  $\frac{2}{3}$  years about 7-10% of the total hours of homemaker home health aide service in Iowa have been reimbursed through Medicare or Medicaid.

The Iowa State Department of Health has collected, tabulated and distributed statistical information about the delivery of homemaker home health aide service statewide for a number of years. This is done on a quarterly basis. Table I indicates the number of hours of service provided in Iowa each quarter in the last  $3\frac{1}{2}$  years.

TABLE I  
HOURS OF SERVICE PROVIDED

	January- March	April- June	July- September	October- December
1976			220,258	229,826
1977	205,526	273,667	278,982	295,322
1978	324,124	337,579	330,529	341,692
1979	331,972	343,698	307,447	297,873

In general, Table I shows an increasing volume of service with about 1,300,000 hours of service being provided per year at the present time. The data for the last 2 quarters are not complete yet.

Statewide statistics on age of recipients are not collected on a routine basis, however, special studies indicate about 80-85% of the services are provided to persons age 60 or over. Table II indicates by age and living arrangement, the number and percent of total clients from a study of 581 randomly selected recipients of service.

TABLE II  
AGE AND LIVING ARRANGEMENT

Age		Number	Percent	Percent
18 and under	Live alone	0	0	1
	Do not live alone	5	1	
19-59	Live alone	17	3	19
	Do not live alone	95	16	
60-69	Live alone	33	6	12
	Do not live alone	34	6	
70-79	Live Alone	68	12	25
	Do not live alone	79	14	
80-89	Live alone	121	21	35
	Do not live alone	80	14	
90-99	Live alone	30	5	8
	Do not live alone	19	3	



## STATE DEPARTMENT/ PUBLIC HEALTH

(Continued from page 174)

It is clear the services are provided predominantly to persons over age 70 or 80. As the age increases more and more services are provided to persons who live alone. In this study 8% of the recipients were over age 90. As our population in these older age brackets continues to increase, the need for homemaker home health aide service will also increase.

This study also allowed us to review how frequently a variety of specific activities are provided by homemaker home health aide services. Table III shows the number and percent of recipients age 60 and over who were provided assistance with some of these activities. The recipients are divided into those who live alone and those who do not live alone.

TABLE III  
ACTIVITY/SERVICE PROVIDED TO RECIPIENTS OVER 60

	Live Alone (N = 252)		Do Not Live Alone (N = 212)	
	Number	Percent	Number	Percent
Help with ambulation	46	18	85	40
Bed Bath	37	15	108	51
Change Bed	147	58	125	59
Do Laundry	127	50	57	27
Hair Care	94	37	129	61
Mop Floor	151	60	72	34
Mouth Care	22	9	63	30
Prepare Meals	58	23	43	20
Range of Motion or Other exercises	26	10	85	40
Shopping Transfer	119	47	36	14
(bed to chair, etc.)	17	7	93	44
Tub Bath	55	22	39	18
Vacuum or sweep floors	187	74	98	46

There is a difference apparent between the persons who live alone and those who do not live alone. The persons who live with a spouse or others more frequently receive more intensive health services such as bed bath, mouth care, help with transfer, ambulation and exer-

cises. The persons who live alone more frequently receive housekeeping type services such as laundry, vacuuming and shopping, than those who live with someone. It may be that many individuals who live alone would not be able to stay in their home if they were ill enough to require the intensive assistance.

Another study provided information on the source of referrals for 3,170 clients to 110 homemaker home health aide agencies during October, November, December 1979. Table IV depicts the results of that study.

TABLE IV  
SOURCE OF REFERRAL

	Number	Percent
Physician	135	4.3
Nursing Agency	491	15.5
Hospital	268	8.6
Department of Social Services	976	30.8
Friend/Neighbor	235	7.4
Family	253	8.0
Self	566	17.9
Other	246	7.7

The number of direct physician referrals is rather small, however, many times the physician referral is to the nursing agency which can then arrange for the service of homemaker home health aides in addition to providing nursing service.

We believe homemaker home health aide service is an essential service for Iowa's citizens. The Iowa General Assembly has recognized the value of nursing and homemaker home health aide services and has begun to provide state funds through the State Health Department and local boards of health to support these services for more older Iowans. We appreciate the support Iowa physicians have provided and look forward to continued expansion. For more detailed information about any of the above studies or information regarding services in your area, please contact: Ronald D. Eckoff, M.D., M.P.H., Chief, Division of Community Health, Iowa State Department of Health, Lucas State Office Building, Des Moines, Iowa 50319.



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## February 1980 Morbidity Report

Disease	Feb. 1980 Total	1980 to Date	1979 to Date	Most Feb. Cases Reported From These Counties
Amebiasis	0	0	13	—
Brucellosis	0	0	1	—
Chickenpox	1906	3012	2884	Scattered
Cytomegalovirus	0	1	1	—
Eaton's Agent				
infection	1	2	16	Dubuque
Encephalitis, virol	2	5	4	Linn, Webster
Erythema				
infectiosum	40	41	98	Johnson, Mahosko
Gastroenteritis				
(GIV)	5174	6841	4729	Scattered
Giordiosis	4	5	7	Marion, Plymouth
Hepatitis, A	17	24	38	Johnson, Polk
Hepatitis, B	6	14	16	Linn, Polk
type unspecified	12	18	11	Linn, Scott
Herpes simplex	10	19	13	Johnson, Scott
Herpes Zoster	0	0	0	—
Histoplasmosis	6	7	0	Boone, Johnson
Infectious				
mononucleosis	65	87	125	Black Hawk, Linn, Polk
Influenza,				
lab confirmed	25	25	0	—
Influenza-like				
illness (URI)	23591	28073	19297	Scattered
Meningitis				
aseptic	2	6	8	Lee, Polk
bacterial	19	28	21	Linn, Polk
meningococcal	2	2	3	Polk, Winneshiek
Mumps	4	12	62	Johnson, Polk
Pertussis	0	0	0	—
Robies in animals	27	51	25	Dallas, Jasper
Rheumatic fever	0	0	2	—
Rubello				
(German measles)	1	1	2	Tomo
Rubeola (measles)	1	1	1	Jackson
Salmonello	9	18	22	Carroll, Dubuque
Shigello	13	20	11	Clayton, Polk
Tuberculosis				
total ill	6	11	17	Jasper, Monono
bact. pos.	4	8	15	Polk, Story
Venereal diseases:				
Gonorrhea	390	813	1028	Scattered
P. & S. Syphilis	2	3	6	Scattered

Laboratory Virus Diagnosis Without Specified Clinical Syndrome: Reye Syndrome — 3, Polk; Kowosaki — 1, Pottowattamie; Compyllobacter — 4, Dubuque, Jackson; Scarlet Fever — 10, Dubuque, Grundy, Polk, Winneshiek.



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# JOURNAL OF THE IOWA MEDICAL SOCIETY

MAY 1980 / VOLUME 70 NUMBER 5

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**ABOUT THE COVER** — A hardly describable tour of Cambodian duty ended in April for William Rosenfeld, M.D., Mason City. The cover picture affords a glimpse at the setting in which Dr. Rosenfeld worked as a volunteer under the Iowa Shares program. Two other Iowa physicians, plus nurses and other health care workers, have given voluntarily of their time to aiding the refugees. In the column to the left, Dr. Rosenfeld comments on his recent service.



## PRESIDENT'S PRIVILEGE

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**M**EDICINE IS OFTEN CHIDED by the public and the press for not doing a better job of policing itself, not rooting out incompetence. The assumption is that "Club" loyalty, coupled with a conspiracy of silence among physicians, is responsible for all kinds of bad medical practice being swept under the proverbial rug.

Chapter 258A. 9.2 of the Code of Iowa (1978) requires the reporting of certain acts or omissions by physicians. This reporting is to cover negligence or carelessness. The law was designed to assist the profession in policing itself.

The first year of this new "tattle-tale" law brought 115 complaints and 72 insurance reports. 20% of the complaints were unfounded, leaving 91 incidents to be investigated further; of these, 19 related to questions of competency. The remainder involved drugs (38), alcohol (4), ethics (10) and a variety of other assorted matters.

If all of the competency complaints are validated, and they are not just the tip of an iceberg yet to be revealed, one-half of one percent of the medical profession of Iowa will have been identified as not meeting the most elementary requirement for medical practice — namely — professional competence. Although this is an area where no variance is acceptable, the frailties of man tell us there will always be some, however few, in this category.

Physicians have never been trained to be policemen, detectives maybe, but not law enforcers, and it has always seemed to me inappropriate for the medical profession to be charged with a "police-itself" responsibility. Besides, punitive systems designed to catch violators have a poor record in molding the behavior of the vast majority who obey the law, and normally did so before it was a law. If

medicine relied upon the legal system to set our professional standards, amputations would still be done in barber shops.

The current high level of medical practice is not the result of medical practice acts, but the product of standards evolved in the private sector: (1) The accreditation of medical education and its continuing surveillance by the liaison committees of the AMA and AAMC; (2) residency training, now universal for almost all medical graduates; and (3) certification and recertification which are voluntary enterprises of the medical profession to help assure high levels of competence among physicians.

State legislatures and the courts have a poor record for settling scientific questions, be they related to the effectiveness of Laetrile, usefulness of amphetamines, or when life begins. They can hardly be expected to be a rational forum in which to determine the standards for professional competence.

The destiny of medicine is in constant development with its educational and scientific organizations dedicated to professional excellence. Doing our own thing and doing it better is the only durable defense against erosion from unscientific and/or fraudulent practices of errant colleagues. The latter and their counterparts outside the profession will always be with us, and although their detection and prosecution may be desirable, their presence never has influenced the mainstream of medical practice in the past and is unlikely to do so in the future.

*Paul M. Seebohm M.D.*

Paul M. Seebohm, M.D.



# VOX DOCS

This month's Vox Docs question is at the bottom of the page. Please answer it and send to IMS JOURNAL, 1001 Grand Avenue, West Des Moines, Iowa 50265. The response to our April question is shown to the right together with several of the comments we received.

"In my memory these factors are inseparable. After 9 years in family practice I rate my medical education at the University of Iowa second to none." — M. C. Steine, M.D., Osage

"Teachers served as role models I could draw on to create my own style of medical practice." — Ronald Reider, M.D., Cedar Rapids

"Looking back it seems to me that the influence of teachers was progressively greater through medical school, internship and residency. Close contact and role model were probably most important." — Robert C. Hardin, M.D., Iowa City

"Teachers may inspire, but they must work from a complete, balanced curriculum. I look back to an outstanding and well planned curriculum." — Scott R. Helmers, M.D., Sibley

"I can recall good and bad features of both. Ultimately, both are above average, but it seems to me the medical school provides educational opportunity. It is always (then and now) the responsibility of the student to reach for excellence." — Peter Reiter, M.D., Ottumwa

## LAST MONTH'S QUESTION — TEACHERS? CURRICULUM?

As you look back, which of the below had the greatest impact on your medical education:

THE TEACHERS	33%
THE CURRICULUM	6%
CAN'T SEPARATE	61%

"I can remember several faculty members (teachers) who made a good and positive impression on my career. I can barely remember the curriculum." — Dennis J. Walter, M.D., Des Moines

"Some teachers added very little, others totally made the entire course." — Daniel M. Youngblade, M.D., Sioux City

"I don't feel one can separate the two. Poor teaching can detract from an excellent curriculum and certainly did in several instances I can remember. Excellent teachers made good classes better. The well-rounded curriculum offered to me kept my interest and gave me a solid base upon which to practice medicine." — Thomas C. Pester, M.D., Council Bluffs

"To me the person to person contact is much more meaningful than courses or texts. Curriculum can be supplemented." — Wayne J. Tegler, M.D., Iowa City

## MAY QUESTION FOR IOWA PHYSICIANS

The media has reported recently, the apparent increasing popularity of "alternative medicine." Vitamins, herbs, food supplements, meditation, natural healing are mentioned often. "Wholistic" medicine is talked of. How do you feel about this trend (if it is a trend)?

☐ Greatly Concerned

☐ It's Always Existed

☐ No Opinion

Comment, please: \_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

(Please Send to IMS JOURNAL, 1001 Grand Ave., West Des Moines, Iowa 50265)

---

# QUESTIONS - ANSWERS

**GAYLORD C. NORDINE, M.D.**  
Des Moines, Iowa

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## RURAL HEALTH INPUT

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*Dr. Nordine serves as a special assistant to the State Commissioner of Health and is chairman of a ISDH Task Force on Nonmetropolitan Health Services. He has been involved recently in a series of community meetings to gather information on Iowa health care problems, assets and liabilities. He comments on these meetings in the following.*

---

**You've been conducting a series of Rural Health Care Task Force meetings around Iowa. Are you receiving any one or two main comments from those attending?**

Comments at the meetings have been consistent in the areas we have visited thus far, primarily the northwest, north central, and northeast communities. Participants are asked about their perceptions of primary care, health education, prevention, and public health at the outset of each meeting. Major responses, discussed by virtually every group, focus on the accessibility of services and the problems with handling of health related information at the community level.

Virtually all communities report an adequate supply of physicians in the larger towns. People from small towns say that they consider physicians in larger towns available, but not accessible to small town populations. There is concern that difficulty with access to services will increase as energy costs make driving more difficult. People representing towns with populations around 1,000 or less continue to have a very strong interest in finding some way

to bring physicians to their towns. Most speak favorably of coverage by nurse clinicians or physician assistants if it is a choice between having a physician or nothing at all. Numerous people have expressed interest in having physicians based in larger towns rotate through their communities.

Comments about the information system have been common in each meeting. People are very interested in obtaining better information about where to look for specific services. Among agencies, there is a desire to develop better information for coordination of services they provide. Physicians and hospitals complain that their productivity is seriously diminished by the reporting burden placed on them by the information they are required to produce for reimbursement.

Three other topics are common. First, health education is a major interest at the community level and local initiatives are desired, but people feel a need for ideas, curriculum development, and coordination coming from outside their community. Second, there is concern among supervisors, mayors, and physicians about the lack of coordination of organized programs at the community level. They suggest that the lack of coordination limits program effectiveness and raises cost. They feel there is little they can do to solve this problem without cooperation at the state level. Third, communities have expressed interest in preventive measures, but the awareness of preventive concepts and how they might be employed at the community level is limited by traditional ways of thinking about prevention.

**How many meetings have been held and what is the purpose in brief?**

There have been 14 meetings to date. By April 5, there will have been 17 meetings. Four more are scheduled. The purpose of these community discussions is to provide people from small towns an opportunity to communicate their perceptions on primary care to the Department of Health. Their comments are being summarized and presented to a Department of Health Task Force on nonmetropolitan health services which has been convened to search for ways to improve state programs affecting rural areas.

**Has the input from the providers and the con-**

*(Please turn to page 208)*





## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

$$V = LWH (= LBD)$$

Do you recognize that formula (for the volume of a rectangular block)? Not very complicated mathematics, is it? "L" refers to length, "W" to width, and "H" stands for height. If you substitute the synonyms "breadth" for "width," and "depth" for "height," then the formula becomes  $V = LBD$ . Now the product of length, breadth and depth still equals the volume of a rectangular block, but perhaps it also now, through subtle changes in word meaning, equals something else.

René Descartes has justifiable fame as a philosopher and mathematician ("I think; therefore, I am"; Cartesian coordinates and analytic geometry). But he also studied medicine; his final publication, *Passions of the Soul* deals with the anatomy and physiology of human emotional reactions. He attempts to show that "psychological" manifestations can be explained with "mechanical" insights. For example, "... The color of the face only proceeds from the blood which ... produces more or less color in the face, according as it to a larger or less extent fills the small veins which are towards its surface. Joy thus makes the color more vivid and ruddy, because in opening the sluices of the heart it causes the blood to flow more quickly in all the veins." At one point in his life, after abandoning his notion that better knowledge of the human body and

proper diet would permit people to live for centuries, he was content to exchange some length of life for breadth: "Instead of finding means to conserve life I have found another, an easier and a surer one, which is not to fear death."

Depth, as breadth, arises from life's experiences and study, but in contrast to breadth, usually refers to a narrowed or restricted interest or activity, or sometimes to a greater intensity of experience. One might, for example, describe the relationship: breadth is to depth as family practice is to nephrology.

Just as we all have our personal learning style, so are we individual in our taste for breadth versus depth. If we think of a quasi-arithmetical product of length of our days, breadth of study, and depth of inquiry or feeling, ought it to be called "v" (volume) or does the "v" now perhaps stand for "vita"? Perhaps such a notion was in the mind of the great essayist, Montaigne, when he said, "The value of life is not in its extension, but in its use. It is not the *number* of years that determine whether

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Dr. Caplan recently was named president-elect of the Society of Medical College Directors of Continuing Medical Education. He has directed continuing medical education at the University of Iowa since 1969 and is also a professor of dermatology.

---

you have lived enough . . . I enjoy life twice as much as others do. . . . Now that I see my life limited in *time*, I want to extend it in *weight*. I want to arrest the speed of its flight by the speed of my grasp, and by the vigor of my use to compensate for the haste of its flow. To the extent that the possession of life is short, I have to make it the more profound and full."

Lest this discussion seem to have grown "heavy," I return it to a slightly lighter tone by recommending the occasional contact in one's continuing education with the really great minds of the world, most of whom are not today alive and writing for medical journals. Whether we now agree scientifically with Descartes's explanation of how joy increases the color of the face, we certainly add breadth, depth, and thus weight to our flimsy lives by reflecting on his meditations, or following his arguments that locate the soul in the pineal gland.

---

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

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## SCIENTIFIC ARTICLES

# Use of Halo Vest To Immobilize Cervical Spine

W. H. VERDUYN, M.D.

Reinbeck, Iowa

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*Fourteen cases are reported where the halo vest was used at Schoitz Hospital in Waterloo to stabilize cervical spine injuries. The procedure is commended by the author because it involves no surgical or anesthesia risks.*

---

IT IS ESSENTIAL that correct immobilization of the cervical spine be provided as soon after injury as possible. A review of recent literature indicates this frequently does not occur.

Bone alignment is important if it can be done without insult to the patient. If the lesion is complete, exact bone alignment is probably not important. If the lesion is incomplete, manipulation may produce the loss of a level of neurological function.

Many authorities in the field of spinal cord injury stress the importance of meticulous and repeated neurological examinations. It is essential that initial care, including the taking of x-rays, be closely supervised by a physician.

### PROCEDURE

A simple and effective means of immobilizing the cervical spine is through the use of the

halo vest. This sheepskin-lined fiberglass vest is fitted around the chest. Metal bars attach to the vest and connect to a ring (halo). The halo is fixed to the cranium by four screws. The screws are fixed to the skull with a torque screwdriver to a pressure of 6 pounds. A local anesthetic of 1% xylocaine is used at the pin sites.

An injury to the cervical spine which causes ligamentous and/or bony damage or potential damage to the spinal cord is indication for application. It is contraindicated where severe chest injury is involved. Application of the vest makes the chest inaccessible to treatment.

### ADVANTAGES

The advantages which accrue from use of the halo vest include (1) early patient mobilization (within 24 hours after application); (2) better maintenance of body physiology; (3) prevention of skin problems; (4) easier maintenance of good muscle tone and range of motion; (5) psy-

Dr. Verduyn is medical director, Rehabilitation Department, Schoitz Hospital, Waterloo, Iowa. He also has a private medical practice in Reinbeck.

THE SCANLON MEDICAL FOUNDATION/IOWA MEDICAL SOCIETY HAS DESIGNATED THIS ARTICLE  
AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF MAY 1980.

chological advantage derived from an active patient, and (6) effective method of immobilization with skeletal alignment unaffected by the force of gravity.

The sequence following injury begins, obviously, with evaluation (neurological, x-ray, etc.). Any initial immobilization may be achieved through Gardner-Wells tongs and traction, on turning frame or Stoke bed. The Stoke bed was designed by Sir Ludwig Guttman at Stoke Mandeville in England.

Following observation, and when the patient's condition is stable, the halo may be applied on the second, third, fourth, or later day. The patient is then mobilized within 24 hours after halo application.

Subsequently, a weekly review of the patient should occur for 6 weeks, then every 2 weeks for the next 6 weeks. The review should consist of neurological assessment, x-ray, checking nuts and bolts on halo vest and halo pins for proper tightness and pressure.

TABLE 1

Pt. #	Age	Sex	Accident	Ortho DX	Neuro DX	Initial Immobilization	Day Admit Schoitz	Day Halo Applied	Mobilization	Complications	Hospital Days
1	38	M	Car	Fracture C <sub>2</sub>	—	Vincke	3	12	14	—	15
2	19	M	Car	Fracture Odontoid C <sub>3</sub>	—	Crutchfield	7	7	8	—	11
3	28	M	Car	Fracture Dislocation C <sub>4, 5</sub>	Roots C <sub>4, 5, 6</sub>	G.W.	2	3	4	—	5
4	74	M	Fell from bed	Fracture Odontoid	—	G.W.	4	6	8	C.O.P.D. Cordiac failure	19
5	21	M	Car	Fracture Dislocation C <sub>4</sub>	Complete C <sub>5</sub>	G.W.	1	4	14	Thrombophlebitis	Rehab 112
6	17	M	Car	Fracture C <sub>6</sub>	Complete C <sub>7</sub>	G.W.	16	19	20	1) Fracture Dislocation L-1/2 2) Pulmonary Embolus Thrombophlebitis	Rehab 105
7	18	M	Car	Fracture C <sub>3</sub>	—	G.W.	1	4	4	—	5
8	44	M	Car	Fracture Dislocation C <sub>4, 5</sub>	—	G.W.	1	2	2	—	3
9	59	M	Fall	Fracture Fused C <sub>6, 7</sub>	Incomplete	G.W.	1	2	4	—	45
10	14	M	Diving	Dislocation C <sub>3, 4</sub>	Incomplete	G.W.	1	2	17	H.D. #16, Surgery-posterior wiring	51
11	25	M	Car	Fracture Pedicle C <sub>6</sub>	Roots C <sub>6, 7, 8</sub> on left	G.W.	1	2	2	—	4
12	28	M	Gunshot	C <sub>7</sub>	Complete C <sub>6</sub>	G.W.	17	2	5	Pneumonia	86
13	26	F	Diving	Fx C <sub>4</sub> Posterior elements Compression C <sub>5</sub>	C <sub>6</sub> Complete	G.W.	1	3	4	Decrease V.C. when sitting up	141
14	27	M	Truck	Anterior subluxation of C <sub>4</sub> on C <sub>5</sub>	Weakness C <sub>4, 5, 6, 7</sub>	G.W.	16	19	19	—	4





HALO VEST IN PLACE — W. H. Verduyn, M.D., medical director, Rehabilitation Department, Schoitz Hospital, Waterloo, reviews condition of a patient fitted with a halo vest used to immobilize the cervical spine. The procedure has produced effective results in a majority of the cases reviewed by Dr. Verduyn.

#### LENGTH OF IMMOBILIZATION

The length of immobilization is determined by the presence, absence and/or degree of neurological damage and bony repair. Immobilization is generally 3 months, although there usually is no visible callus at that time. The following treatment schedule is provided for guidance when immobilization of the cervical spine has occurred:

*Six weeks post-injury* — complete neurologic lesion-soft collar when up for an additional 6 weeks.

*Twelve weeks post-injury* — incomplete neurologic lesion.

*Twelve weeks post-injury* — complete or incomplete neurologic lesions with anterior cervical fusion.

*Twelve weeks post-injury* — complete neurologic lesion with marked anterior body volume loss.

*Twelve weeks after laminectomy* if body of the vertebrae and anterior ligaments are involved.

*Posterior cervical fusion* — with wire or acrylic — neurological complete or incomplete, need soft collar for only 4 weeks.

#### X-RAY FOLLOW-UP

Lateral cervical spine or central cut tomograms should be taken weekly for 6 weeks, then every 2 weeks. Flexion-extension x-rays should be obtained at 12 weeks after the halo has been disconnected from the vest. Follow-up x-ray should occur one to 2 weeks after halo removal. This is especially important in young people where collapse of vertebrae may occur. Posterior wiring is then indicated.

#### SCHOITZ EXPERIENCE

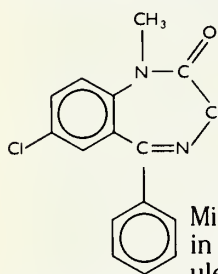
The halo vest was used to immobilize the cervical spine in 14 cases from July 1, 1977 to August 1, 1979. Thirteen patients were males, one was female. They ranged in age from 17 to 74, with a majority in their late teens or early 20's. Nine were involved in car accidents (none were using seat belts, although their vehicles were equipped with them). One injury was caused by a fall out of bed (74-year-old male); one was caused by gunshot; 2 were caused by diving in a shallow pool, and one after a 2-foot fall.

(Please turn to page 202)

## Aspects of Management

# What to tell your patients when you prescribe Valium® (diazepam/Roche)

## Survey shows significant correlation between comprehension and compliance



A study of compliance patterns reveals that more than 6 out of 10 patients made errors in self-administration of prescribed medication, largely due to lack of comprehension.\*

Misunderstanding of directions resulted in discrepancies in dosage schedules as well as in length of therapy.

Since evidence suggests that expanded verbal instructions may encourage compliance, the patient receiving Valium can benefit from your explanation of the dosage regimen, what response to expect from therapy and when to expect it.

## What Valium (diazepam/Roche) can do

Your patients should know that 1) you are prescribing Valium as an adjunct to an overall program for the treatment of anxiety, and 2) Valium is given to relieve the symptoms of excessive anxiety and psychic tension while you help the patient to explore and deal with the underlying cause of his psychic tension.

Patients often interpret manifestations of anxiety, such as palpitations, hyperventilation, fatigue and muscle tension, as symptoms of a serious disease. However, when they

learn that these symptoms can be relieved by Valium therapy, patients can more readily understand the psychosomatic origin of their symptoms and to accept the nonpharmacologic measures you may recommend.

The time you devote to these explanations can be a therapeutic measure in itself. Most anxious patients respond to and benefit from a frank discussion with an objective, sympathetic professional.

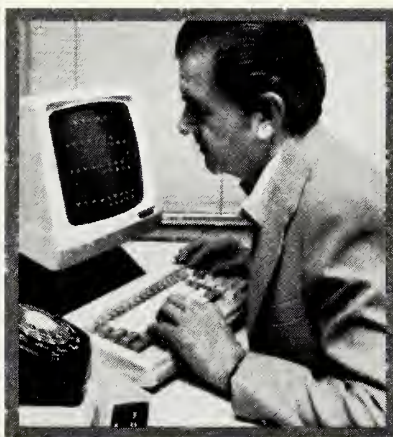
At the start of treatment, establishing therapeutic goals helps the patient to learn *what* to expect and *when* to expect it. Patients should also be informed that the medication will be gradually reduced and discontinued upon attainment of the therapeutic goal.

Tapering of dosage is rarely necessary in short-term therapy, but when consistently higher doses are used for extended periods, patients should know that the gradual reduction of medication will be implemented in order to avoid sudden recurrence of symptoms or possible withdrawal symptoms.

Such recurrence is unlikely when the causes of the anxiety have been worked out satisfactorily within your overall treatment program.

## What Valium (diazepam/Roche) can't do

It should be emphasized that there is no "magic" in any antianxiety tablet; that medication is not prescribed as a problem solver. Instead, Valium is being prescribed as a *temporary measure to relieve symptoms* generated by excessive anxiety and psychic tension.



\* Boyd JR, et al: *Am J Hosp Pharm* 31: 485-491, May 1974

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety associated with anxiety disorders, transient situational disturbances and functional or organic disorders, psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms, or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy). The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders,

possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics,



## Practical pointers on taking antianxiety medications

**do's** Patients should be instructed to keep to their dosage schedule exactly as prescribed. If they miss a dose, they should not try to make it up by taking two doses the next time. Ask them to contact you promptly if they experience worrisome side effects.

Explain that drowsiness is a common reaction to almost all calming agents, but that it usually subsides in a few days. Urge the patient to contact you for a possible dosage adjustment if drowsiness or other reactions persist.

Just as you request a complete list of all medications the patient is taking, suggest that this list be given to any other physician treating her/him.

Like all medicines, Valium should be kept out of reach of children and young people. Old or unused medication should be discarded.

**and don'ts** Since drowsiness is an occasional problem, patients should be advised against driving or operating hazardous machinery until they see how the medication affects them. They should also know that tranquilizers increase the effects of alcoholic beverages, which should therefore be avoided. Also, warn patients against simultaneous use of drugs that depress the central nervous system, particularly sedative hypnotics.

Patients should be aware of the importance of not sharing their medications with friends and neighbors; they should know that what you have prescribed for them may be contraindicated for others.

# Valium<sup>®</sup> 2-mg, 5-mg, 10-mg scored tablets

## diazepam/Roche

An important adjunct to your treatment program for excessive psychic tension

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d., adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium<sup>®</sup> (diazepam/Roche) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500; Tel-E-Dose<sup>®</sup> packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available in trays of 10.



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barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances. Stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Six of the 14 were tetraplegic at a neurological level of C<sub>7</sub>, C<sub>6</sub>, C<sub>6</sub>, C<sub>5</sub> complete, C<sub>7</sub> and C<sub>5</sub> incomplete, respectively. Five patients had no neurological symptoms.

The preferred method of initial immobilization, as soon as diagnosis is suspected, is to use Gardner-Wells tongs with 8-10 lbs. of traction. In one case, Vincke tongs were used; in another, Crutchfield tongs were applied by other physicians.

The hospitalization time for 8 non-paralyzed patients varied from 3 to 19 days. One patient was not referred until 16 days post-injury. Early referral is important in getting a proper treatment program started.

The 74-year-old male was hospitalized for 19 days because of Chronic Obstructive Pulmonary Disease and cardiac failure. This patient died 2 months post-injury of causes unrelated to the injury.

The 6 patients with tetraplegia started an active rehabilitation program. Mobilization in Case No. 5 was delayed 14 days because the patient developed acute thrombophlebitis on the fifth day post-injury. Patient No. 6 was mobilized on the twentieth day post-injury. Delay was due to fracture dislocation of L<sub>1</sub> and L<sub>2</sub> which was treated with Harrington Rods prior to transfer. This patient was again at bed-rest from the forty-ninth to the fifty-sixth days, due to pulmonary embolus from thrombophlebitis in the left leg.

All of the paralyzed patients were on a low dose of Heparin 5000 U q8<sup>h</sup>, ted-hose and daily measurements of lower extremities.

#### SUMMARY

Fourteen patients with cervical spine injuries are presented; 6 patients are tetraplegics; 3 patients had root involvement at C<sub>4</sub>, 5, 6 and 8. In all patients the cervical spine was immobilized initially by skull traction. When the patients'

condition stabilized, and when proper equipment and personnel were available, the halo vest was applied. The non-paralyzed patients were mobilized and discharged. Active inpatient rehabilitation programs were started for the 6 paralyzed cases, 2 of these were incomplete and were discharged after 45 and 51 days, respectively. The complete quadriplegics were discharged in 105, 112, 86 and 141 days.

The halo vest application is done with local anesthetic and does not involve any anesthesia or surgical risks.

#### ADDENDUM

Since this article was written, Dr. Verduyn has applied 6 more halo vests at Schoitz Hospital. The patients ranged in age from 20 to 42 years; 1 diving, 4 motor vehicle and 1 fall from sky ride. Three males, all incomplete, and 3 females, all complete. One female was 2 months pregnant at the time of her accident.

One male could not be stabilized with the halo application and had to have a posterior fusion of C-5 — T-1. The halo was re-applied one week later, to provide early ambulation. The halo was removed 3 months later and the patient is now ready to return to work.

One female was stabilized and had an anterior fusion of C-6 — T-1 before being transferred to Schoitz Hospital. She was transferred to Schoitz in traction and the halo vest was applied within the week. The halo was removed 3 months later and she was discharged 2 weeks later, wheelchair independent.

The pregnant female is still hospitalized, but her halo is off and she will be discharged shortly to go home for 2 months. Then she will be hospitalized at her 7th month of pregnancy.

#### BIBLIOGRAPHY

A brief bibliography on this subject is available from either the author or the JOURNAL OF THE IOWA MEDICAL SOCIETY.

## TRIP AVAILABLE

A 20-day trip to the People's Republic of China is available from September 10 to 29 to members of the Iowa Medical Society, their families and friends. This "travel adventure" is provided by the IMS through INTRAV.

The travel itinerary calls for the first 4 days in

Hong Kong, followed by 12 days in the People's Republic, and concluding with 2 more days in Hong Kong. The cost from Des Moines is \$3,529 per person. Less than 3,000 Americans will be allowed to visit this third largest country in the world during 1980.

Further information is available from IMS headquarters.



# Aetna has returned over \$1 million in dividends to Iowa physicians.

Since the inception of the Iowa Medical Society Liability Insurance Program three years ago, Aetna has returned over \$1 million to Iowa physicians.

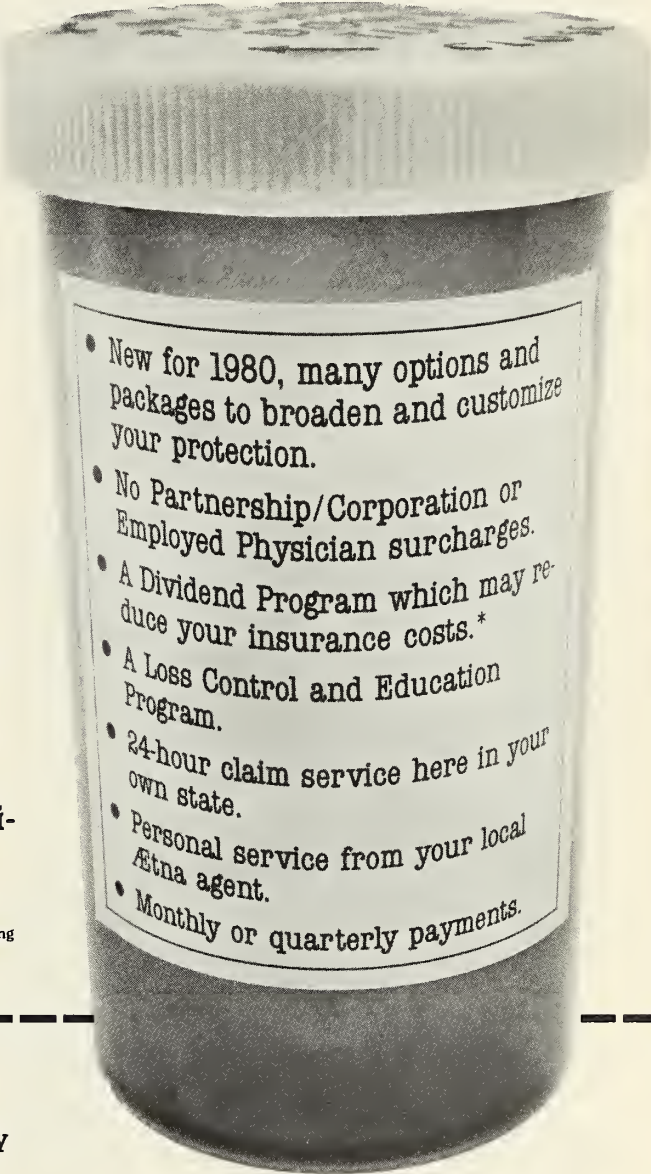
This year, physicians participating in the program will share in a half million dollar dividend.

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\*Dividends cannot be guaranteed prior to being declared by Aetna's Board of Directors.

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# Cancer in Iowa: 1973-1977

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*What are the cancer incidence trends? Bladder tumors have been on the rise since 1973. Lung cancer among women is going up steadily. Bone tumors among males have increased slightly.*

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the state's residents are black, and fewer than 0.3% belong to other races. In 1977 the Iowa population was estimated by the Bureau of the Census at about 2.86 million. The state has only 2 cities with populations exceeding 100,000, although 7 counties are relatively urbanized, and are designated by the census as Standard Metropolitan Statistical Areas (SMSA).

## STATE CANCER REGISTRY

Individual hospital tumor registries have been functioning in various areas of Iowa for many years, but it was not until 1969 that statewide registration became a reality. A repository of cancer was established with the Third National Cancer Survey (TNCS) in 1969-1971. Although funding was not available for 1972, the State Cancer Registry was reorganized in 1973 as part of the Department of Preventive Medicine and Environmental Health at the University of Iowa. It has received renewed financial support from the National Cancer Institute's Surveillance Epidemiology and End Results (SEER) Program. This program has continued to date.

Patient data are collected routinely by 17 field representatives. They visit regularly each of the hospitals and clinics in their respective target areas throughout Iowa. Data are also picked up from institutions in adjacent states where Iowa residents receive treatment. Information on cancer is obtained from medical record rooms, and radiology, pathology and hematology departments. In addition, Iowa death certificates are examined for relevant information on cancer deaths. Medical data are

CANCER is the second leading cause of death in the State of Iowa. Only diseases of the heart account for more deaths.

Over the past few years, however, heart diseases have been declining in their importance as a cause of death while cancer has been increasing slowly. Malignant tumors now account for 20% of Iowa deaths. This short review will document the magnitude of cancer in Iowa, both in absolute numbers of cases, and incidence per 100,000 population. A section on sources of ascertainment used by the State Cancer Registry of Iowa is followed by data tables and a brief analysis of possible trends.

## IOWA POPULATION

Iowa is part of the geographic heartland of the United States and is relatively homogeneous racially. About 80% of Iowa residents are native born. The principal ethnic groups in the state are northern European, with persons of German descent accounting for about 25% of the state's population. Other important ethnic groups are Danes and Swedes. Only 1.2% of

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This material has been compiled by Mr. Kevin Gleaves, director, State Cancer Registry and by his predecessor, Richard Gallagher.



coded in the field according to the International Classification of Diseases for Oncology (ICD-O) and abstract forms are returned to the central office for geographic coding, entry into the computer and analysis. Privacy of information is maintained through a strict confidentiality policy specifically designed to guard against inappropriate or unwarranted use of registry data.

#### REGISTRY DATA

This short paper covers only newly diagnosed primary malignant neoplasms. Excluded are all cases of basal and squamous cell carcinoma of the skin, which are not abstracted by field representatives. No information is presented on in-situ of the uterine cervix which numbers between 500 and 600 per year.

The principal anatomic sites for development of new cancers within Iowa residents remain the colon, breast and lung (Table I). Other important sites are prostate in males and corpus uteri and ovary in females. Bladder cancer

TABLE I  
INCIDENCE AND MORTALITY FROM CANCER, IOWA, 1973-77  
FOR SELECTED SITES ONLY

Anatomic Site	Number 1973-77		Mean Annual Rate for 100,000 Pop.	
	Diagnoses	Deaths	Incidence	Mortality
All Sites	50904	27916	356.0	195.2
Lip	431	20	3.0	0.1
Stomach	1201	965	8.4	6.8
Colon (Rectum Excluded)	6018	3669	42.1	25.7
Rectum	2619	775	18.3	5.4
Pancreas	1559	1538	10.9	10.8
Lung	6516	5605	45.6	39.2
Female Breast*	6993	2466	95.3	17.2
Cervix Uteri*	1020	380	13.9	2.7
Corpus Uteri*	2079	444	28.3	3.1
Ovary*	1204	878	16.4	6.1
Prostate*	4664	1805	67.0	12.6
Bladder	2500	802	17.5	5.6
Melanoma	783	276	5.5	1.9
Non-Hodgkin's Lymphoma	1584	990	11.1	6.9
Hodgkin's Disease	448	211	3.1	1.5
All Leukemia	1879	1311	13.1	9.2

\* Numbers and rates are sex specific.

### Incidence of Cancer by Organ System, Iowa, 1973-77

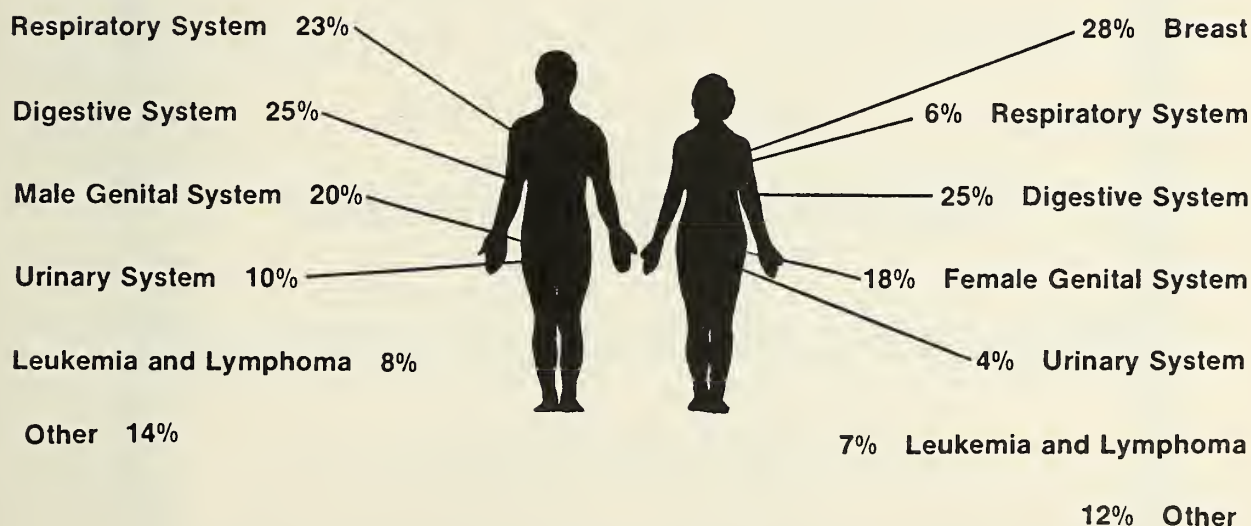


Figure 1

remains fairly common in Iowa with a current male to female ratio of 3:1 for both incidence and mortality. Relative survivals for different sites are apparent in the comparison of incidence and mortality figures. In tumors with low survival, the numbers of deaths over the 5-year period is close to the number of new diagnoses. Lung and pancreatic cancers are examples of these neoplasms. Tumors with better survival have larger differences between numbers of newly diagnosed cases and numbers of deaths. Corpus uteri is an example of a neoplasm with long survival.

Since mortality figures are based on the "underlying cause of death," death rates for some causes may appear distorted. For example, the crude mean incidence for female breast cancer is 95.3 per 100,000 while the corresponding mortality rate is only 17.2.

Figure 1 shows the relative incidence of primary invasive cancers in Iowa residents by organ system from 1973-1977. The most important differences between the sexes are the preponderance of lung cancers in males, and the enormous proportion of female tumors originating in the breast.

Several incidence trends not shown in the tables have been noted over the past 5 years. These include:

a) Bladder tumors have been on the rise from 1973, but only in females. The increase has also been confined largely to the more urban parts of the state.

b) Lung cancer is steadily rising in women. The major increase is in the 45-64 age group. It is likely that this rise is a result of increased smoking.

c) Bone tumors in males seem to be increasing slightly. This is most pronounced in the 45-64 age group. The frequency of this lesion, however, is small, and no corresponding increase has been seen in females. More data will be needed before we can be certain of any real trend here.

Detailed data illustrating these increases will be available shortly in a short monograph entitled *Cancer Patterns in Iowa, 1973-1977*. Copies can be obtained by writing the Cancer Registry. A further, in depth study on the epidemiologic aspects of cancer in the state is planned for later in the year.

★

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## COMMENTING EDITORIALY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### SECOND-HAND SMOKE: CHILD ABUSE?

Increasing concern is being expressed over the hazardous effects on those who passively inhale cigarette smoke from the environment. A report in the *AMERICAN JOURNAL OF EPIDEMIOLOGY*\* addresses the effect of parental cigarette smoking on the pulmonary function of exposed children. The report noted that as the number of smoking persons in a household increases, the measured pulmonary function (forced expiratory flow) is more impaired. Moreover, the pulmonary function is further compromised if the child smoked an occasional cigarette. Other studies have shown increased respiratory illnesses among children of parents who smoke cigarettes.

\* Tager, I. B. et al: *Amer. J. Epidemiol.*, 110:15, July, 1979.

### ILOSONE® VS. FDA

There continues to be controversy over the contention of the Food and Drug Administration that the solid form of Ilosone® (erythromycin estolate, Eli Lilly & Company) should be withdrawn from the market. The claim that Ilosone® causes increased incidence of cholestasis and hepatotoxicity is measured against a belief that this is outweighed by the erythromycin estolate which produces higher serum levels and consequently greater clinical effectiveness.

A potential concern exists beyond the immediate effects upon the child. Clarification must be made between short-term effects and ultimate long-term pulmonary damage. Studies thus far are not clear as to the long-term effects, but should they prove that inhaled environmental air contaminated by cigarette smoke is hazardous, the implications may be far-reaching. Should a child be shown to have impaired pulmonary functions from inhaling cigarette smoke in the home environment, will he have legal recourse under laws of child abuse? Already, lawsuits have been instituted by children for alleged lack of proper parental guidance, proper education, or the provision of necessary specialized care when possibly indicated. Today's children may well contend that cigarette package warning statements should indicate the smoker might be liable for any possible hazardous effects from smoke exhaled on other members of society, more especially those in the immediate proximity during the act of smoking.

Non-smokers, of course, are offended by others smoking. Provisions are made for the segregation of smokers (non-smokers) on airplanes, some restaurants, and in some situations no smoking is permitted. Should hazardous effects upon the non-smoker from environmental cigarette smoke be proved, the responsibilities of society would be far-reaching. Certainly, laws regarding the availability and use of cigarettes would be broadened. Legal recourse by non-smokers could be staggering. I'm glad I do not smoke anymore. — M.E.A.

The battle lines have been drawn. Controversial claims are being made by each adversary. Assertions have been advanced that data presented by FDA (based on a study in Texas) is not valid. There are accusations that the FDA is basing its conclusions on an assertion promulgated by a consumer organization known as Health Research Group. This same body was involved in the effort to have Darvon® removed from the market.

One aspect of the issue that has been presented by the AMA centers around the authority of the FDA to approve for marketing only those drugs for which there is adequate evidence of safety and efficacy. It is to be assumed

the physician can and will weigh the risks of any drug against the benefits — few drugs are completely safe and completely effective for each and every patient.

Does the FDA propose to make the therapeutic decisions? Shall there be only one drug in each pharmacologic category for use by the physician? Will government regulations

eventually dictate therapeutic procedures to physicians to such a degree that a given paragraph of a specific regulation shall state that a drug named therein must be used in each and every situation? A hard look must be taken at this and every action of the FDA, for the entire *art* and science of medicine cannot be based on a government regulation. — M.E.A.

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## LETTER TO EDITOR

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Dear Editor:

I read the paper entitled, "Use of Estrogen Receptor Data: Recommendation for Iowa" in the March issue of *Journal of Iowa Medical Society*, with great interest. The IMS Committee on Oncology should be commended for its effort to develop a consensus on the clinical utility of estrogen receptor (ER) and progesterone receptor (PR). A uniform recommendation is sorely needed in this area.

I have one comment on the committee's recommendation. In answering question 4 on page 107, the committee seems to indicate when the ER is positive, endocrine treatment would be used no matter whether the PR is positive or not. If this were the case, it seems the results of PR determination really contribute little, if anything, in the decision-making process on how to manage the patient with disseminated breast cancer. But in the final recommendation on page 108 the committee

favors obtaining both ER and PR on the primary cancer.

It is true when both ER and PR are positive the response rate to endocrine treatment is 81% (McGuire *et al* Cancer, Vol. 39 supplement, p. 2934, 1977), which is better than 50-60% response rate when ER alone is present. But it is also true, as reported by McGuire and others (McGuire *et al* Journal of Steroid Chemistry, Vol. 9, p. 461, 1978), that when ER is above 100 fmole/mg protein the response rate is also 81%. These reports indicate that a quantitative ER assay will give as much information to make a clinical decision as would be provided by both ER and PR.

One way the medical profession could respond to the public's concern over the runaway cost of medical care is to select judiciously those laboratory tests that help to make a diagnosis and to derive maximum useful information from every test. The real clinical need in PR determination for breast cancer patients is a point for all of us to ponder. — Nai-Siang Jiang, Ph.D., Endocrine Laboratories, Mayo Clinic & Foundation

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## QUESTIONS/ANSWERS

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(Continued from page 194)

**sumers been similar in nature? Or is the perception of health availability noticeably different between the two?**

There has been strong correlation between the input from providers and consumers. Perception of health service availability and accessibility is not noticeably different from place to place. There is excellent rapport among consumers and providers at the community level in these meetings. Common goals are expressed and there is abundant interest in finding ways to increase both the productivity

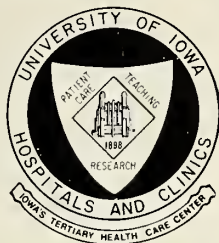
and cost effectiveness of physicians and hospitals.

**What comment would you have for Iowa physicians based on this involvement?**

I think communities are expressing extremely favorable attitudes about their physicians. They are concerned about the excessive demand for services and would like to see productivity of physician practices increased. They recognize the overload experienced by the majority of community physicians and are very interested in assisting physicians in finding ways to increase productivity by improving organization of community based services and diminishing the burdens imposed by our current information system.



# DRUG THERAPY REVIEW



## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

**REYNOLD SPECTOR, M.D., Editor**

*Editor's Note — In recent years knowledge about rational drug therapy has expanded significantly. This series of articles will provide the practicing physician with concise, topical reviews of drug therapy.*

### BROMOCRIPTINE

Bromocriptine is a polypeptoid alkyloid derivative of the ergotoxine group. It is a dopamine receptor agonist in that it activates post-synaptic dopaminergic receptors. Dopaminergic neurons of the thalamic or hypothalamic areas modulate the secretion of prolactin from the anterior pituitary gland either directly or by stimulating the release of prolactin inhibitory factor. Pharmacologic experiments and clinical evidence have demonstrated the selective activity of bromocriptine in suppressing prolactin secretion in animals and humans with hyperprolactinemia from a variety of causes.

Bromocriptine has been recently marketed in the United States as Parlodel<sup>TM</sup> for the short-term treatment of hyperprolactinemia in the amenorrhea/galactorrhea syndrome.

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

Prolactin has been detected throughout the vertebrate kingdom in various species including fish, amphibians, reptiles, birds, and mammals. In most mammalian species, the primary action of the hormone is stimulation of milk protein synthesis during lactation.

Prolactin-secreting cells are the most numerous cells in the anterior pituitary gland. They increase in number during pregnancy under the influence of increased estrogen concentrations and are responsible for the overall increase in size of the pituitary gland during gestation. While most of the anterior pituitary hormones are under the primary influence of hypothalamic-releasing factors, prolactin secretion is under tonic inhibition. It has been shown in in vitro studies that prolactin-secreting cells of the anterior pituitary have dopamine receptors, and that these cells respond to dopamine and to bromocriptine by suppressing synthesis and release of prolactin. Because of this it has been suggested that dopamine and prolactin-inhibiting factor are the same substance. While dopamine may be the major physiologic modulator of prolactin secretion, there is evidence that other factors such as estrogens and serotonin are also important. In nursing mothers, each episode of suckling results in a burst of prolactin. Prolactin is also released during stress such as surgical anesthesia and by hypoglycemia.

In normal nonpregnant women and in men, the serum prolactin concentration is less than 25 ng/ml. Prolactin is secreted in a pulsatile manner and a burst of prolactin secretion occurs during sleep. There is no major change in the prolactin concentration during the menstrual cycle. Because of the pulsatile nature of the secretion of the hormone, it is often necessary to obtain blood samples on three separate days or at 20 to 30 minute intervals on one day in order to establish with certainty a diagnosis of hyperprolactinemia.

Elevated prolactin concentration in blood is a normal event during pregnancy and nursing. In nonpregnant, non-nursing women hyperprolactinemia results in inappropriate lactation (galactorrhea), amenorrhea, and infertility.

Functional or absolute depletion of central nervous system dopamine results in increased prolactin secretion. Thus, hyperprolactinemia accompanies treatment with a variety of

psychoactive compounds, including phenothiazines, butyrophenones, tricyclic antidepressants, benzodiazepines, Rauwolfia alkaloids, methyl dopa, and procaine derivatives. Other causes of pathological hyperprolactinemia include: pituitary tumors, hypothalamic lesions, hypothyroidism, chest injuries, treatment with estrogens, or estrogen-containing oral contraceptives.

Drug ingestion is probably the most common cause of abnormal prolactin-secreting cells of the pituitary. Hypothalamic lesions and interference with transmission of prolactin-inhibiting factor down the pituitary stalk is much less frequent. Some patients with hypothyroidism develop hyperprolactinemia presumably related to the high concentrations of thyrotropin-releasing hormone. Trauma to the chest from wounds, burns, or surgery may trigger the same neuro-hormonal mechanism as is involved in suckling.

Galactorrhea, inappropriate lactation, is an abnormal condition. When accompanied by amenorrhea or by markedly irregular menses, it is usually associated with hyperprolactinemia. Galactorrhea in the presence of regular menses is usually not due to abnormal prolactin secretion and its cause remains unknown.

Historically, the amenorrhea/galactorrhea syndrome has been divided into three eponymic conditions:

1. Chiari-Frommel syndrome — postpartum amenorrhea/galactorrhea without a demonstrable pituitary tumor.

2. Forbes-Albright syndrome — postpartum or spontaneous amenorrhea/galactorrhea with demonstrable pituitary tumor.

3. Argonz-del Castillo syndrome — amenorrhea/galactorrhea unrelated to pregnancy without a demonstrable pituitary tumor.

It has been estimated that 30% or more of women with secondary amenorrhea alone may have hyperprolactinemia. As noted above, this increases greatly when galactorrhea is demonstrable. Since these women are often young and infertile, the availability of a specific medical therapy is a major advance in treatment of infertility.

Men with prolactin-secreting tumors do not come to medical attention until the lesions are quite large, resulting in severe headaches or visual field defects, although lesions have been

found earlier in some men with hypogonadism and infertility. Men with hyperprolactinemia may demonstrate galactorrhea without noticeable gynecomastia.

#### CLINICAL PHARMACOLOGY OF BROMOCRIPTINE


Studies using radioactive-labeled bromocriptine showed that only 25% of an oral dose was absorbed from the gastrointestinal tract. As a result of the incomplete absorption and rapid metabolism by the liver, 10% or less of a 2.5 mg oral dose of bromocriptine enters the systemic circulation unchanged. Bromocriptine is 89% bound to human plasma proteins. Following administration of a single large (50 mg) dose, peak plasma values are obtained at 2 hours. Peak plasma values following standard 2.5 mg oral doses are in the range of 5 ng/ml. The biological half-life of the drug is approximately 3 hours. The absorbed drug is completely metabolized prior to excretion in the bile.

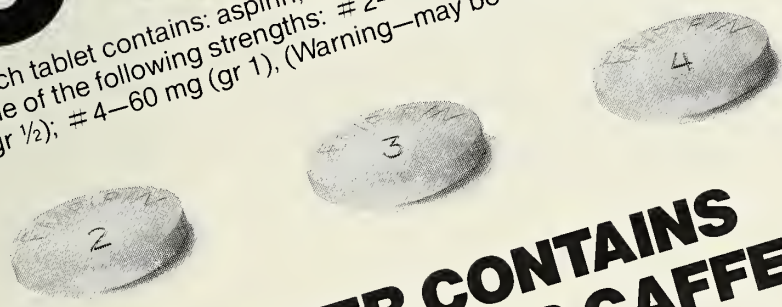
Bromocriptine shares many of the dopamine stimulant properties of classic dopamine agonists such as apomorphine and piribedil. In all species tested, bromocriptine causes suppression of circulating prolactin levels and of lactation. Bromocriptine also blocks the prolactin response to thyrotropin-releasing hormone. It has little direct effect upon other hormones concerned with the reproductive cycle. Bromocriptine, like dopamine, has a direct inhibitory effect on prolactin synthesis and secretion by pituitary cells in vitro.

*Efficacy* — Patients with amenorrhea/galactorrhea and hyperprolactinemia rarely experience spontaneous remission of the syndrome and, if present for more than 2 years, spontaneous remission is practically unheard of. Data on the efficacy of bromocriptine in women with amenorrhea and hyperprolactinemia is based upon a review of 22 separate studies involving a total of 226 patients. 80% of the patients resumed menses during treatment. The average time to resumption of menses was 6 weeks. 47% of the patients had a complete resolution of galactorrhea as well as resumption of menses, while 63% had resumption of menses accompanied by a marked reduction in galactorrhea. After 4 weeks of therapy, 66% of the patients had a serum prolactin concentration less than 25 ng/ml. There were 31 pregnancies resulting in 25 normal children.



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**Adverse Reaction** — Acute toxicity of bromocriptine in man is largely confined to the consequences of postural hypotension. This often accompanies the initiation of treatment. For that reason therapy is often begun with a single 2.5 mg dose daily for 3 to 5 days and increased to a total of 5 to 7.5 mg daily. During that time tolerance develops to the hypotensive action of the drug. Common side effects of chronic treatment include nausea (51%), headache (18%), dizziness (16%), fatigue (8%), and light-headedness (6%). Chronic treatment with large doses results in digital vasospasm in a small number of subjects. No consistent hematologic or biochemical changes due to bromocriptine treatment in low or high doses have been reported.

#### INDICATIONS

The FDA has approved the drug for the "short-term treatment of amenorrhea/galactorrhea associated with hyperprolactinemia of varied etiologies, excluding demonstrable pituitary tumors." Because of concern for the consequences of the drug on fetal growth and because safe use of the drug in pregnancy has not been demonstrated, it is not approved for the management of infertility. Since there are no data concerning the safety and effectiveness of its long-term continuous use, the duration of treatment should not exceed six months.

The drug is not curative. Amenorrhea and galactorrhea generally recur when the drug is discontinued with recurrent rates ranging from 70 to 80%. Thus, while the drug is of potentially great usefulness, current FDA guidelines greatly limit its application.

The growth of prolactin-secreting pituitary tumors and development of visual field defects has been reported during spontaneous pregnancies and during pregnancies that followed bromocriptine treatment. Tumor growth was presumably the result of estrogen stimulation. It is advised that if patients become pregnant while taking bromocriptine, that the drug be stopped and that they be followed carefully with serial visual field evaluations during the course of pregnancy.

A reduction in pituitary tumor size and improvement in visual field abnormalities has also been attributed to bromocriptine treatment.

#### OTHER USES

**Acromegaly** — In normal individuals, dopa-

mine results in the suppression of growth hormone secretion. In acromegalics, there is a paradoxical effect of dopamine agonists to lower growth hormone concentrations. While some dramatic results have been reported, the response is quite variable and often requires large doses of the drug.

**Parkinson's Disease** — Bromocriptine can relieve akinesia, rigidity, and tremor in many patients with Parkinson's disease. In some patients it causes fewer abnormal involuntary movements than levodopa and has a longer duration of action. Large doses are often required (30 to 80 mg). The major disadvantage is a high incidence of mental symptoms, including nightmares, hallucinations, and paranoid delusions. Nausea, orthostatic hypotension and a Raynaud-like digital spasm can also occur. Bromocriptine now is often used with levodopa. However, the toxicity of the two drugs may be additive, particularly their mental effects. This use is not approved by the FDA.

**Suppression of Lactation** — Bromocriptine, if given in the 24 hours following delivery, will prevent lactation and is also effective in suppressing established lactation later in the puerperium. Prolactin levels fall within 4 to 5 hours of initial dosage. Prolactin response to suckling is also abolished. Suppression of lactation and lowering of circulating prolactin levels postpartum by bromocriptine is accompanied by a return of FSH and LH levels to normal more rapidly than occurs naturally. The average bromocriptine dose necessary to suppress lactation is 5 mg daily. Treatment needs to be continued for 3 weeks to avoid rebound lactation after drug withdrawal. Bromocriptine is effective in the great majority of subjects and will inhibit lactation where other hormonal treatments have failed; however, this use does not have FDA approval. — Barry M. Sherman, M.D., Professor, Department of Internal Medicine; and Frederick K. Chapler, M.D., Professor, Department of Obstetrics and Gynecology

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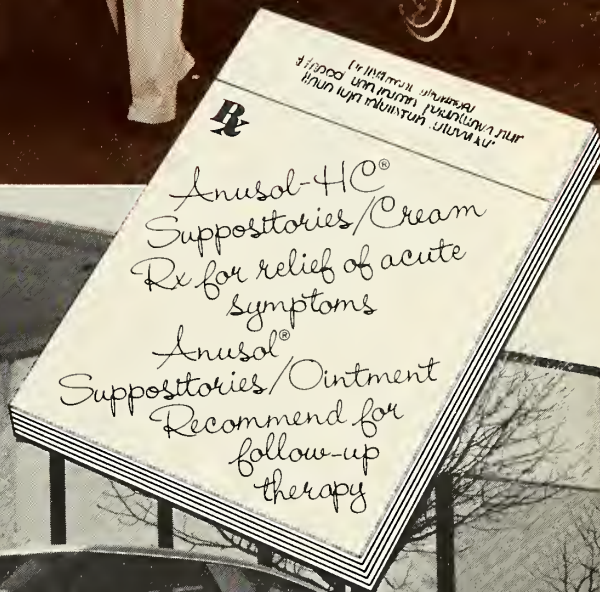
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**Description:** Each Anusol-HC Suppository contains hydrocortisone acetate, 10.0 mg; bismuth subgallate, 2.25%; bismuth resorcin compound, 1.75%; benzyl benzoate, 1.2%; Peruvian balsam, 1.8%; zinc oxide, 11.0%; also contains the following inactive ingredients: dibasic calcium phosphate, and certified coloring in a hydrogenated vegetable oil base.

Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg; bismuth subgallate, 22.5 mg; bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitol monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

**Indications:** Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, anal fissures, incomplete fistulas and relief of local pain and discomfort following anorectal surgery.

Anusol-HC Cream is also indicated for pruritus ani.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol<sup>®</sup> Suppositories or Ointment.

**Contraindications:** Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations.

**Warnings:** The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

**Precautions:** Symptomatic relief should not delay definitive diagnoses or treatment.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued and appropriate therapy instituted.

In the presence of an infection the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled.

Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Anusol-HC is not for ophthalmic use.

**Dosage and Administration:** Anusol-HC Suppositories — Adults: Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at

bedtime for 3 to 6 days or until inflammation subsides. Then maintain patient comfort with regular Anusol Suppositories.

**Anusol-HC Cream — Adults:** After gentle bathing and drying of the anal area, remove tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain patient comfort with regular Anusol Ointment.

**NOTE:** If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

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# STATE DEPARTMENT/ PUBLIC HEALTH

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## APPROPRIATENESS REVIEW

The National Health and Resources Developing Act\* requires every state, through its designated State Health Planning and Development Agency (SHPDA), to review the appropriateness of health services for which goals have been established in the State Health Plan. These institutional and home health service reviews are to be done every 5 years. The SHPDA will make and publish a finding of appropriate or inappropriate based on a previously determined set of criteria which must be submitted for public input prior to adoption for review. The health systems agencies in the State will review the services in their areas and transmit their findings with recommendations to the State previous to the State Review.

What is perhaps more interesting than the details of how appropriateness review (AR) will be carried out is the history and philosophy behind the legislation. When the original legislation was being prepared (1974) AR was envisioned by some to be a recertification regulatory type procedure. Needless to say, that vision did not receive enthusiastic support from all quarters. Garrick Cole, J.D., in an article entitled, "Issues and Strategies in Appropriateness Review: A Legal Analysis" states:

*"First, the AR provision which the Congress finally agreed upon is a compromise between the view of those who would have authorized SHPDAs to eliminate "inappropriate" or unnecessary facilities or services and that of those who believed such authority would have destroyed the ability of health care facilities to secure financing at a reasonable cost.*

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

\* P.L. 93-641 as amended by P.L. 96-79.

*Second, it is clear that the HSAs' role is one of advice and recommendation with the final responsibility for findings resting with the SHPDA. Third, even the strong Senate proposal lacked clear standards governing appropriateness findings and anticipated that adverse conclusions would be "prudent." Fourth, the conference report suggests that Congress ultimately decided to treat both HSA and SHPDA AR activity as primarily if not exclusively advisory:*

The conferees . . . wish to stress that the purpose of the findings by the State Agency is to inform the public and providers of health services as to appropriateness of particular services and what, if any, voluntary remedial actions are advisable (emphasis supplied).

4 U.S. Code Cong. & Admin. News, 7842,7986 (1974).

*"This final expression of Congressional intention that the purpose of HSA and SHPDA AR activity is to inform the public and providers of appropriateness findings and suggest voluntary remedial action constitutes a strong basis for arguing that, at a minimum, health planning agencies may not use federal funds to pursue more aggressive approaches to AR implementation. However, it seems doubtful that the Congress intended to bar states from undertaking AR implementation programs involving sanctions which are based entirely upon state laws and financed solely with state funds. . . ."*

In spite of this admonition, some states have chosen to implement, AR as a regulatory mechanism. *Iowa has not.* In Iowa, AR will be an extension of the planning process; a planning tool which will offer an opportunity for communities to look closely at their health service needs and how those needs can best be met by our health care institutions.

### AR FACT SHEET

Following is text from a fact sheet prepared by the Institute for Health Planning in Madison, Wisconsin that briefly explains the AR procedure.

**Effective Date:** Every fully-designed HSA must be prepared to begin its review of appropriateness of an institutional health service on or before June 11, 1980. State agencies must be prepared to receive HSA recommendations on the same date, although in practice recommendations will not begin to become available until somewhat later.

**Definitions:** "Appropriateness" is defined as the degree to which a service under review meets the needs of a population served, in accord with criteria developed and published by HSAs and State Agencies.



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"Institutional health services" are those offered by or through private or public hospitals, rehabilitation facilities, and nursing homes, and which entail an annual operating expenditure of \$75,000 or more.

"Existing" services are those currently offered (at the time of review) offered during the preceding 12 months, or to be initiated during the following 12 months.

**Level of Review:** All appropriateness reviews are areawide in nature, examining the service under review in all institutional settings in a health service area. Conduct of an areawide review may require use of institution-specific data concerning the service.

**Level of Findings:** The findings from an areawide review of a service must be expressed as an areawide finding of appropriateness or inappropriateness. HSAs and State Agencies may choose to make institution-specific findings concerning the service as well.

**Services Subject to Review:** All existing institutional health services in a health service area, and particularly those for which goals are established in the SHP, must be reviewed. The specifics of selecting and defining services for purposes of appropriateness review are left to the State Agency, in conjunction with the HSAs and the Statewide Health Coordinating Council (SHCC). The regulations require that priority be given in definitions and schedules to those services for which resource standards have been established in the National Guidelines for Health Planning.

**Priorities and Schedules:** The establishment of priorities for review among service categories, and of the schedule for reviews, is the responsibility of the State Agency, in cooperation with the HSAs and SHCC. The schedule must permit review of all existing institutional health services in a health service area to be completed, and recommendations submitted, on or before December 11, 1982.

**Procedures for Review:** Each HSA and State Agency must develop and adopt standard procedures for conducting appropriateness reviews. The public must be provided an opportunity to comment on these procedures prior to their adoption.

**Time for Review:** An appropriateness review by an HSA for a particular service must be completed within 180 days of the written notification to providers of that service that a review is beginning. The State Agency also has

180 days from its notification date to complete a review and make its findings public. Generally, HSA and State Agency reviews will be sequential.

**Information Requirements:** HSAs and State Agencies must prescribe and publish in advance their requirements for data and information from institutions whose services are subject to review. Such required information must be limited to that reasonably needed for the review, and existing data sources are to be used to the maximum extent possible.

**Public Input in Review:** The procedures adopted by an HSA or State Agency must provide an opportunity for public input in the course of the review if requested to do so by an organization, institution or individual. The general public must also have access to all written materials pertinent to appropriateness reviews.

**Criteria for Review:** The criteria for conduct of appropriateness reviews adopted by HSAs and State Agencies must meet minimum considerations established in statute and regulation. Each service reviewed must be examined against 6 characteristics — availability, accessibility, acceptability, continuity, cost and quality.

**Findings of Inappropriateness:** If an HSA recommends a finding of inappropriateness, or a State Agency makes such a finding, the finding must be in writing, and provide a detailed explanation of the established criteria which were not met and the ways in which the service failed to meet those criteria. This explanation must include factors which are beyond the control of the affected institutions.

**Remedial Actions:** If an HSA makes a recommendation for a finding of inappropriateness at either the areawide or institution-specific levels, or if the State Agency makes such a finding, each must, to the extent practicable, provide written recommendations concerning remedial actions. Such recommendations should indicate steps that might be taken by providers of the service to remedy the problem(s) leading to the finding of inappropriateness. There is no statutory or regulatory sanction to enforce these remedial plans, however, and institutional compliance is voluntary.

**Reconsideration Hearings:** The State Agency procedures must provide for reconsideration of any finding, whether institution-specific or areawide.

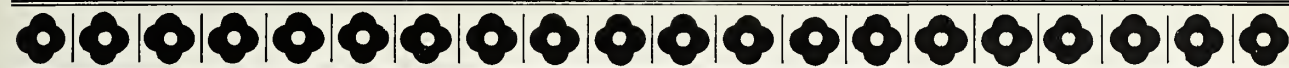


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**Appeals Hearings:** The State Agency's procedures must provide opportunities for formal appeals hearings concerning its findings under two sets of circumstances. First, a hearing must be held if requested by a HSA when the State Agency finding is at variance with the HSA recommendation. Second, a hearing must be held at the request of an institution, if an institution-specific finding of inappropriateness has been made by the State. In either case, the finding of the person conducting the hearing shall be considered the final finding of the State Agency in regard to appropriateness of the service under review.

You will note under *services* subject to review the State Agency is responsible for selecting the services to be reviewed from the State Health Plan. During the next 3 years the services to be reviewed in Iowa are ESRD, Specialized Cardiovascular Services, Therapeutic Radiology Services/Specialized Diagnostic Radiology Services, Short-stay Inpatient Hospital Services/OB/Neonatal/Peds, Home Health Services, Long-term Inpatient, and Mental Health, in that order. The reviews will be areawide as opposed to institution-specific in Iowa.

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**CONTRAINDICATIONS** Use in Newborn or Premature Infants. This drug should not be used in newborn or premature infants.

Use in Nursing Mothers. Because of the higher risk of antihistamines for infants generally and for newborns and prematures in particular, antihistamine therapy is contraindicated in nursing mothers.

Use in Lower Respiratory Disease. Antihistamines should NOT be used to treat lower respiratory tract symptoms including asthma.

Antihistamines are also contraindicated in the following conditions: hypersensitivity to azatadine maleate and other antihistamines of similar chemical structure, monoamine oxidase inhibitor therapy (See DRUG INTERACTIONS Section).

**WARNINGS** Antihistamines should be used with considerable caution in patients with: narrow angle glaucoma; stenosing peptic ulcer, pyloroduodenal obstruction; symptomatic prostatic hypertrophy; bladder neck obstruction.

Use in Children: In infants and children especially, antihistamines in overdosage may cause hallucinations, convulsions, or death.

As in adults, antihistamines may diminish mental alertness in children. In the young child, particularly, they may produce excitation.

OPTIMINE TABLETS ARE NOT INTENDED FOR USE IN CHILDREN UNDER 12 YEARS OF AGE.

Use in Pregnancy: Experience with this drug in pregnant women is inadequate to determine whether there exists a potential for harm to the developing fetus.

Use with CNS Depressants: Azatadine maleate has additive effects with alcohol and other CNS depressants (hypnotics, sedatives, tranquilizers, etc.).

Use in Activities Requiring Mental Alertness: Patients should be warned about engaging in activities requiring mental alertness, such as driving a car or operating appliances, machinery, etc.

Use in the Elderly (approximately 60 years or older): Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients.

**PRECAUTIONS** Azatadine maleate has an atropine-like action and, therefore, should be used with caution in patients with a history of bronchial asthma, increased intraocular pressure, hyperthyroidism, cardiovascular disease, hypertension.

**DRUG INTERACTIONS** MAO inhibitors prolong and intensify the anticholinergic (drying) effects of antihistamines.

**ADVERSE REACTIONS** The most frequent adverse reactions are underlined.

General: Urticaria, drug rash, anaphylactic shock, photosensitivity, excessive perspiration, chills, dryness of mouth, nose, and throat.

Cardiovascular System: Hypotension, headache, palpitations, tachycardia, extrasystoles.

Hematologic System: Hemolytic anemia, thrombocytopenia, agranulocytosis.

Nervous System: Sedation, sleepiness, dizziness, disturbed coordination, fatigue, confusion, restlessness, excitation, nervousness, tremor, irritability, insomnia, euphoria, paresthesias, blurred vision, diplopia, vertigo, tinnitus, acute labyrinthitis, hysteria, neuritis, convulsions.

Gastrointestinal System: Epigastric distress, anorexia, nausea, vomiting, diarrhea, constipation.

Genitourinary System: Urinary frequency, difficult urination, urinary retention, early menses.

Respiratory System: Thickening of bronchial secretions, tightness of chest and wheezing, nasal stuffiness.

**OVERDOSAGE** Antihistamine overdosage reactions may vary from central nervous system depression to stimulation. Stimulation is particularly likely in children. Atropine-like signs and symptoms (dry mouth, fixed, dilated pupils, flushing, and gastrointestinal symptoms) may also occur.

If vomiting has not occurred spontaneously, the patient should be induced to vomit. This is best done by having him drink a glass of water or milk after which he should be made to gag. Precautions against aspiration must be taken, especially in infants and children.

If vomiting is unsuccessful, gastric lavage is indicated within three hours after ingestion and even later if large amounts of milk or cream were given beforehand. Isotonic and 1/2 isotonic saline is the lavage solution of choice.

Saline cathartics, such as milk of magnesia, draw water into the bowel by osmosis and therefore are valuable for their action in rapid dilution of bowel content.

Stimulants should not be used.

Vasopressors may be used to treat hypotension.

FEBRUARY 1977

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For more complete details, consult package insert or Schering literature available from your Schering Representative or Professional Services Department, Schering Corporation, Kenilworth, New Jersey 07033.

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## March 1980 Morbidity Report

Disease	Mor. 1980 Total	1980 to Date	1979 to Date	Most Mor. Cases Reported From These Counties
Amebiasis	0	0	26	—
Brucellasis	1	1	2	Tamo
Chickenpox	1436	4448	4125	Scattered
Cytomegalavirus	0	0	2	—
Eaton's Agent infection	1	3	21	Black Hawk
Encephalitis, virol	1	6	4	Lyan
Erythemo infectiosum	33	74	224	Davis, Linn, Mohosko
Gastroenteritis (GIV)	2992	9843	7258	Scattered
Giardiasis	0	5	10	—
Hepatitis, A	13	37	48	Palk, Scott, Tamo
Hepatitis, B	11	25	21	Jahnsan, Polk
type unspecified	4	22	14	Scott, Buena Visto, Dubuque
Herpes simplex	6	25	23	Dubuque, Jahnsan
Herpes Zoster	0	0	—	—
Histoplasmosis	1	8	—	Polk
Infectious mononucleosis	45	132	209	Black Hawk, Story
Influenza, lab confirmed	51	76	0	Black Hawk, Fayette, Jefferson, Johnson, Linn
Influenza-like illness (URI)	11658	39731	30025	Scattered
Meningitis				
septic	1	7	12	Palk
bacterial	6	34	30	Scattered
meningococcal	1	3	4	Palk
Mumps	3	15	110	Black Hawk, Cerro, Gardo, Des Moines
Pertussis	0	0	0	—
Robies in animals	23	74	41	Audubon, Jasper, Marshall, Tamo
Rheumatic fever	—	—	6	—
Rubella				
(German measles)	2	3	41	Warren
Rubeola (measles)	0	0	2	—
Salmonella	11	29	38	Linn, Scott, Woodbury
Shigella	0	20	21	—
Tuberculosis				
total ill	7	18	23	Scattered
bact. pos.	6	14	21	Scattered
Venereal diseases:				
Gonorrhea	317	1130	1550	Scattered
P. & S. Syphilis	0	3	7	—

*Laboratory Virus Diagnosis Without Specified Clinical Syndrome:* Adenovirus — 1, Palk; Guillian Barré — 1, Black Hawk, 1, Scott; Reye's Syndrome — 1, Humbolt, 1, Linn, 1, Palk, 1, Ringgold, 1, Washington, 1, Waadbury; Scarlet Fever — 29, Delowore, 1, Des Moines, 1 Flayd, 1, Josper, 1, Palk, 1, Warren; Kowosoki — 1, Jahnsan; Malaria — 1, Linn.

## NEWS/PRODUCTS, PROGRAMS, ETC.

*Information on various products, programs, etc. is received regularly by the IMS JOURNAL. Here are short items sifted from the mail by the Scientific Editor. A reference to a specific product is not intended to suggest any particular endorsement. Additional information on any entry may be obtained by contacting the IMS JOURNAL.*

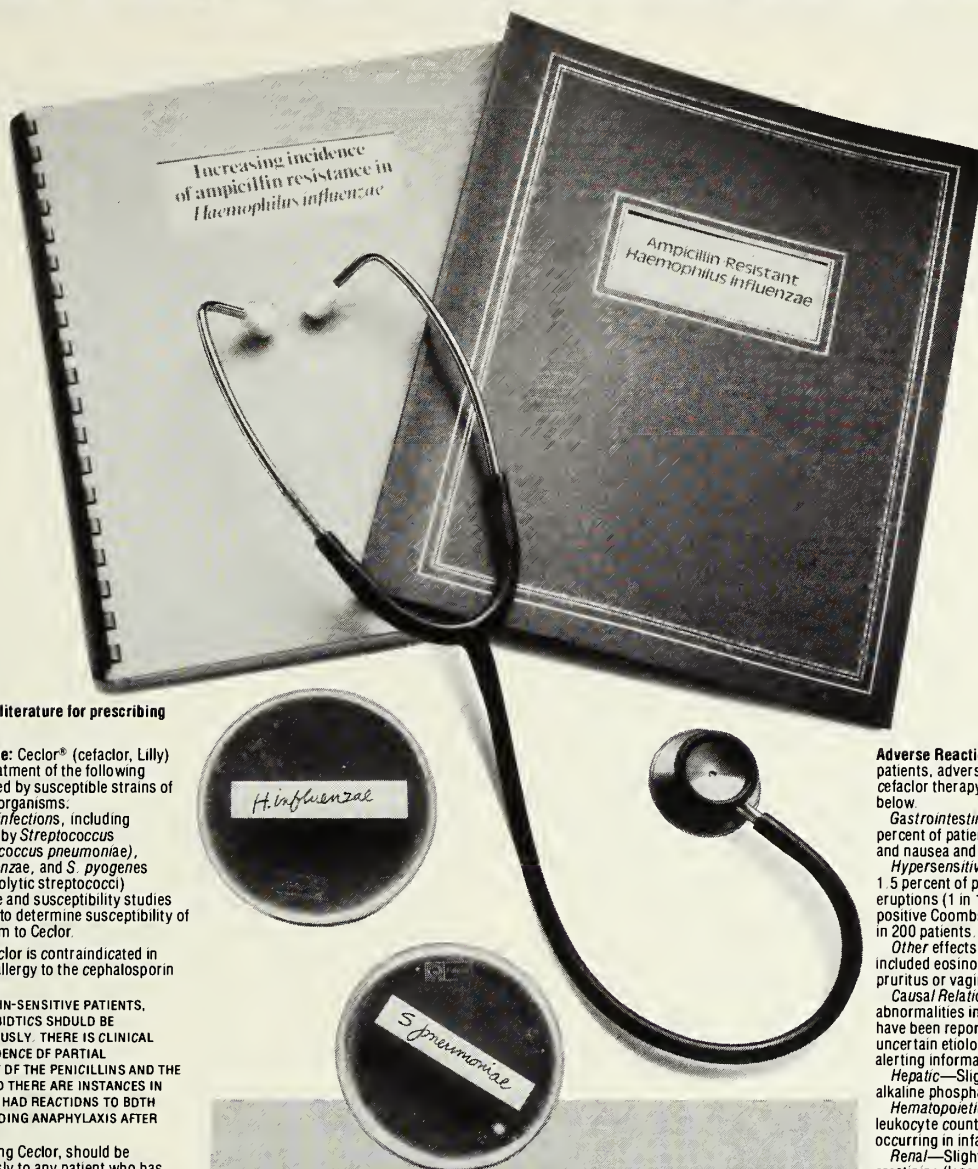
**ANTI-INFLATION EFFORT** — The Advertising Council, in cooperation with the U. S. Departments of Agriculture, Commerce, Labor, and Treasury, has initiated a public service advertising campaign to curb inflation. The theme is "We can all beat inflation if we just use our dollars and sense." A free booklet has been prepared called "Dollar\$ and Sen\$e." Single copies may be had by writing to: "Dollar\$ and Sen\$e," Pueblo, Colorado 81009.

**A WAY TO WEIGH** — Weight monitoring of non-ambulatory patients (those in intensive care, coronary care, surgical recovery, dialysis, burn treatment or shock treatment) can be accomplished safely and with minimal patient discomfort with a portable electronic weightmobile. A stretcher is placed under the patient, attached to a weighing arm, and hydraulically lifted inches above the bed. The weight appears immediately on a self-contained digital display.

**SILICONE TUBING** — A brochure describing Silastic medical grade silicone tubing is available from Dow Corning Corporation, Dept. 5115, Midland, Michigan 48640. It lists chemical and physical properties of Silastic tubing, its biocompatibility and resistance to various acids, bases, and organic and inorganic chemicals. It also has a chart of standard available sizes. The tubing is manufacturable in many custom shapes and sizes.



# An added complication... in the treatment of bacterial bronchitis\*



**Brief Summary.** Consult the package literature for prescribing information.

**Indications and Usage:** Cefclor® (cefactor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

*Lower respiratory infections*, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

**Contraindication:** Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

**Precautions:** If an allergic reaction to cefactor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefactor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

**Usage in Pregnancy**—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

**Usage in Infancy**—Safety of this product for use in infants less than one month of age has not been established.

**Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis\*—are sensitive to treatment with Cefclor.<sup>1-6</sup>**

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.<sup>7</sup>

# Cefclor®

## cefactor

Pulvules®, 250 and 500 mg

**Adverse Reactions:** In clinical studies in 1493 patients, adverse effects considered related to cefactor therapy were uncommon and are listed below.

*Gastrointestinal* symptoms occurred in about 2.5 percent of patients and included diarrhea (1 in 70) and nausea and vomiting (1 in 90).

*Hypersensitivity* reactions were reported in about 1.5 percent of patients and included morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occurred in less than 1 in 200 patients.

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory tests results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[070379R]

\*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.<sup>8</sup>

**Note:** Cefclor® (cefactor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

#### References

1. Antimicrob. Agents Chemother., 8:91, 1975.
2. Antimicrob. Agents Chemother., 11:470, 1977.
3. Antimicrob. Agents Chemother., 13:584, 1978.
4. Antimicrob. Agents Chemother., 12:490, 1977.
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), 11:880. Washington, D.C.: American Society for Microbiology, 1978.
6. Antimicrob. Agents Chemother., 13:861, 1978.
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G. L. Mandell, R. G. Douglas, Jr., and J. E. Bennett), p. 487. New York: John Wiley & Sons, 1979.



Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285. Eli Lilly Industries, Inc., Carolina, Puerto Rico 00630

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## ABOUT IOWA PHYSICIANS

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Guest speakers at recent perinatal conference at St. Luke's Medical Center in Sioux City include — **Dr. Dwight Cruikshank**, assistant professor, Department of Obstetrics and Gynecology, University Hospitals, Iowa City, **Dr. Herman Hein** and **Dr. Allen Erenberg**, associate professors, Department of Pediatrics, University Hospitals, Iowa City and Sioux City physicians — **Dr. James F. Boysen**, **Dr. Leonard H. Boggs**, **Dr. Gary Carlton** and **Dr. Kent Rogers**. . . . **Dr. Stacey Howell**, Amana, has been elected chief of staff at Marengo Memorial Hospital. Other officers are — **Dr. C. Savetamal**, Belle Plaine, vice president; and **Dr. Virginia Moldenhauer**, Marengo, secretary. . . . **Dr. Laverne A. Wintermeyer**, Des Moines, was guest speaker at recent meeting of the Dallas and Guthrie County Medical Society. . . . **Dr. Virgil C. Kirkegaard** has been named president of the medical staff at the Marian Health Center in Sioux City; **Dr. Don E. Boyle**, president-elect; and **Dr. Fred J. Lohr**, secretary-treasurer. All are Sioux City physicians.

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**Dr. Stephen G. Taylor** has joined Des Moines Orthopaedic Surgeons in Des Moines. Dr. Taylor received the M.D. degree at U. of I. College of Medicine; interned at Butterworth Hospital in Grand Rapids, Michigan; and served his orthopaedic residency at the Mayo Clinic in Rochester, Minnesota. He recently completed a sports medicine and knee surgery fellowship at the Orthopedic and Fracture Clinic in Eugene, Oregon. . . . **Dr. Milton Barrent** recently celebrated his 40th Year as Clinton High School team physician. Other 1979 honors accorded Dr. Barrent include Clinton Man of the Year Award; a service award from the Iowa Coaches Association; and designation as grand marshal of the Clinton high school

homecoming parade. . . . **Dr. John Hess, Jr.** Des Moines, was recently elected president of the Iowa Foundation for Medical Care. Other 1980 officers are **Dr. Robert Pfaff**, Dubuque, 1st vice president; **Dr. Bryce Wilson**, Des Moines, 2nd vice president; **Dr. Robert Mand-sager**, Marshalltown, treasurer; **Dr. J. H. Sunderbruch**, Davenport, secretary; and **Dr. R. H. Westfall**, Council Bluffs, past president. **Dr. J. F. Stiles**, Cedar Rapids, is a new county representative on the IFMC board of directors, and **Dr. Charles Jons**, Ames, is a new area representative. **Dr. G. R. Schmunk**, Clinton, will serve an unexpired term as an area representative. All others on the IFMC board with expiring terms were re-elected.

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**Dr. Louis L. Maher** was elected president of the medical staff at Iowa Methodist Medical Center; **Dr. Joe F. Fellows**, president-elect; and **Dr. John W. Walker**, secretary-treasurer. . . . **Dr. Jose V. Angel**, Council Bluffs, has been named a Diplomate of the American Board of Allergy and Immunology. . . . **Dr. Frederic M. Ashler**, Hamburg, recently was appointed to the Commission on Health Care Services of the American Academy of Family Physicians. . . . **Dr. Bruce Van Hauweling** will begin family practice in Solon in August. A graduate of the University of Virginia Medical School, Dr. Van Hauweling is currently completing his family practice residency at U. of I. College of Medicine. . . . **Dr. W. Dow Edgerton**, Davenport, has been chosen by the board of the Community's Maternal Health Center as the first recipient of the William C. Keettel Education Award. Dr. Edgerton was instrumental locally in the development of the Center and has served nine years as medical director. The award is named after the retired chairman of the Department of Obstetrics and Gynecology at University Hospitals in Iowa City.

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**Dr. John M. Graether**, of the Wolfe Clinic in Marshalltown, is on the faculty for a series of seminars to be sponsored by Surgidev Corporation, on new techniques employed in the implantation of intraocular lenses. Dr. Graether is also discussing the influence of cataract surgery on the cornea. The Wolfe Clinic is in the early stages of a study of the



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effects of cataract surgery on the cellular lining of the cornea. . . . **Dr. Larry A. Severidt** will join **Dr. Paul A. Searles** at the Manchester Family Health Clinic in July. A graduate of the U. of I. College of Medicine, Dr. Severidt is currently completing his family practice residency at Mercy-St. Luke's in Davenport.

**Dr. Richard Asarch**, Des Moines, discussed skin problems at recent meeting of the United Ostomy Association, Des Moines Chapter. . . .

**Dr. Richard M. Freeman**, U. of I. professor of medicine, has been re-elected national vice-president at 29th annual meeting of the National Kidney Foundation. Dr. Freeman is a founder of the Kidney Foundation of Iowa in 1970 and served as KFI president from 1974-1976. Prior to becoming vice president of the NKF, he was chairman of its medical advisory board. Dr. Freeman is director of the hemodialysis facilities at the University of Iowa-VA Medical Center. . . . **Dr. George A. Paschal** retired from general practice in Webster City in February. Dr. Paschal received the M.D. degree at the U. of I. College of Medicine in 1929. Prior to locating in Webster City, he practiced one year in Stratford and 9 years at

Williams. Dr. Paschal has served many years in the IMS House of Delegates; he's also been a member of the board of the American Academy of Family Physicians; and past vice president of AAFP. He is an IMS life member.

. . . **Dr. N. K. Pandeya**, Des Moines, attended a recent symposium on military plastic surgery at Walter Reed Army Medical Center. At the meeting, Dr. Pandeya was elected to active membership in the Association of Military Plastic Surgeons. Dr. Pandeya is an Air Force major and a flight surgeon in the Iowa Air National Guard. He is a member of the Aerospace Medical Association.

**Dr. Jerry Wille** will begin family practice at the Atlantic Medical Center in June. A native of Hartley, Dr. Wille received the M.D. degree at U. of I. College of Medicine and completed his family practice residency in Mason City. . . .

**Dr. Joseph A. Buckwalter**, U. of I. assistant professor of orthopedics, recently received the Kappa Delta Award, the highest scientific honor bestowed by the American Academy of Orthopaedic Surgeons. He also has been selected for the 1980 Elizabeth Winston Lanier Orthopaedic Research Award for a paper enti-

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tled, "Electron Microscope Studies of Cartilage Proteoglycans." The paper was presented at a recent combined meeting of the Orthopaedic Research Society and the American Academy of Orthopaedic Surgeons. . . . **Dr. Ronald Miller**, Council Bluffs, was a recent guest speaker at the Clarinda Senior Center. Dr. Miller is a former Clarinda resident. . . . **Dr. Stacey Howell**, Amana, has been elected chief of staff at Marengo Memorial Hospital. **Dr. C. Savetamal**, Belle Plaine, was named vice president and **Dr. Virginia Moldenhauer**, Marengo, secretary. . . . **Dr. S. O. Lee** and **Dr. L. K. Berryhill**, Fort Dodge physicians, were participants in a recent Fort Dodge workshop on "Some Mental Health Concerns with Children and Adolescents."

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**Dr. Sant Hayreh**, Mason City, was guest speaker at recent meeting of the Mason City Medical Assistants. . . . **Dr. Joseph E. Dvorak**, Lake Okoboji, retired February 1 from medical practice at Spirit Lake Medical Center. Dr. Dvorak received the M.D. degree at U. of I. College of Medicine where he also completed his eye, ear, nose and throat residency. Prior to locating in Spirit Lake in 1971, he practiced 42 years in Sioux City. Dr. Dvorak is a past president of the medical staff at St. Joseph's Mercy Hospital in Sioux City; past president of the Iowa Academy of Ophthalmologists; and diplomate of the Pan American Academy of Medicine and Surgery.

## DEATHS

**Dr. Fredric W. Wilson**, 63, Sioux City, died February 8 at a Sioux City hospital. Dr. Wilson received the M.D. degree at Northwestern University Medical School. Following his service with the medical corps during World War II, he joined his father, Dr. Frederick L. Wilson, in medical practice in Sioux City.

**Dr. Paul L. Wolpert**, 66, Onawa, died February 18 at an Onawa hospital. Dr. Wolpert received the M.D. degree at Creighton University School of Medicine in Omaha; interned at St. Joseph Mercy Hospital in Sioux City, and began medical practice in Onawa in 1937. In 1975, he received the Alumni Achievement Citation at Creighton University and in 1976 the "Service to Iowa Athletics Award" presented by the Iowa High School Athletic Association. Dr. Wolpert was a member of the American

Academy of Family Practice; board of directors of Onawa State Bank; board of directors at Elmwood Nursing Home, and medical staff at Burgess Memorial Hospital in Onawa.

**Dr. Gary Hedge**, 38, Marshalltown ophthalmologist and his wife, Mary, 36, were killed February 21 when their single-engine plane crashed about two miles northwest of Spencer. Dr. Hedge received the M.D. degree at U. of I. College of Medicine; interned at Oakland Naval Hospital in Oakland, California and completed ophthalmology residency at University Hospitals in Iowa City. He began his practice in Marshalltown in 1978.

**Dr. James E. Whitmire**, 81, died March 16 at Lantern Park Care Center in Coralville. Dr. Whitmire received the M.D. degree at U. of I. College of Medicine. He had practiced in Sumner for 55 years prior to moving to Coralville.

**Dr. Grace O. Doane**, 88, Des Moines, died at her home March 20. Dr. Doane received the M.D. degree at the Drake University Medical School in 1913. She was a life member of the Iowa Medical Society.

**Dr. Elmer M. Smith**, 69, Des Moines, died March 7 at his home. Dr. Smith received the M.D. degree at U. of I. College of Medicine. He practiced medicine in State Center from 1937 to 1940 and in Eagle Grove from 1945 to 1963. During World War II, he was a flight surgeon and was awarded the Legion of Merit and the Air Medal. In 1967 he served as a medical volunteer in Vietnam. Prior to his retirement, Dr. Smith was chief medical consultant to the Iowa Department of Social Services. He was an alternate delegate and delegate from Iowa to the American Medical Association from 1961 to 1973. He was a fellow of the Royal College of Tropical Medicine.

**Dr. Merrill M. Benfer**, 83, longtime Davenport physician, died March 26 in Sun City, Arizona. Dr. Benfer received the M.D. degree at the U. of I. College of Medicine; interned at Missouri Methodist Hospital in St. Joseph, Missouri; and served his residency in urology at U. of I. He began his practice in Davenport in 1932, retiring in 1964. Dr. Benfer was a past president of the Scott County Medical Society; member of American Urology Association; member of Iowa Urology Association and Iowa Clinical and Surgical Society; and fellow of the American College of Surgeons.

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# IOWA MEDICAL ASSISTANTS

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## NEW IOWA PRESIDENT

Doris L. Liggett, CMA-AC, is the new president of the American Association of Medical Assistants, Iowa Chapter. She has worked for George H. White, M.D., Des Moines, since 1951 with a few years off to have her family. Since 1970 she has worked as a doctor's assistant and office manager. During this time she has taken several medical courses and received her CMA-C in 1974 and her CMA-A in 1975.

Doris has been active in her local chapter since 1972, serving as treasurer, vice president and legislative chairman on the local and state levels. She has attended many state and national conventions.

Doris' husband, "Speck," is a C.P.A. and vice president of finance for the Iowa Credit Union League. They have one son, Bruce, who is a "real live cowboy" and manages a cattle ranch in Arizona. Her hobbies include antiques, bridge and travel with her family and friends.

*Congratulations, Doris, From All Your Medical Assistant Fans.*

## FIRST DAY OF THE REST OF YOUR LIFE

I heard this statement at the convention in New Orleans and it really impressed me. Think about it — this is the first day of the rest of your life! How are you going to "GET IT ALL TOGETHER" — improve, organize, mold or change yourself for the balance of your life.

Confucius say: "In 3 ways a person can achieve knowledge; the way of thinking — the noble way; the way of trial and error — the hard way; and the way of imitation — the easy way." Learning by imitation or more positively



stated, by competent instruction, in the classroom environment or on the job is not an ignoble way to learn. After we obtain basic knowledge we can become creative by using "the thinking method." This can be applied to our work and our organization in an exciting way.

TODAY — is just the beginning of the rest of your life — Learn, study, grow, be kind, be helpful, be supportive, be friendly, give just a little more. You are "Professional Medical Assistants." Let's make 1980-81 a progressive year in our association.

## CALENDAR OF EVENTS

Following is information on several important events. Watch for further information in the mail.

FRIDAY, MAY 16 — PRE-CONVENTION SEMINAR, Holiday Inn, Sioux City, Keeping Medical Records by Lorno Gilbert, Attorney, Sponsored by Siouxland Chapter — Noon to 3 p.m. Program to cover contents, ownership, disclosure, confidentiality, release, retention and corrections. Registration: \$7.50 — Members; \$10 — Non-Members; \$3 — Students. Please use registration form shown here.

FRIDAY/SUNDAY, MAY 16 to 18 — AAMA, Iowa Society Annual Convention, Holiday Inn, 1401 Zenith Drive, Sioux City.

### PRE-CONVENTION SEMINAR REGISTRATION

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY/STATE \_\_\_\_\_

Member \_\_\_\_\_ Non-Member \_\_\_\_\_ Student \_\_\_\_\_

Return Registration & Fee to:

Mary Bechler  
2616 Pierce Street  
Sioux City, Iowa



## Valium® (diazepam/Roche)®

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety associated with anxiety disorders, transient situational disturbances and functional or organic disorders; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; ataxia; stiff-man syndrome; convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age.

Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. **Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available in trays of 10.



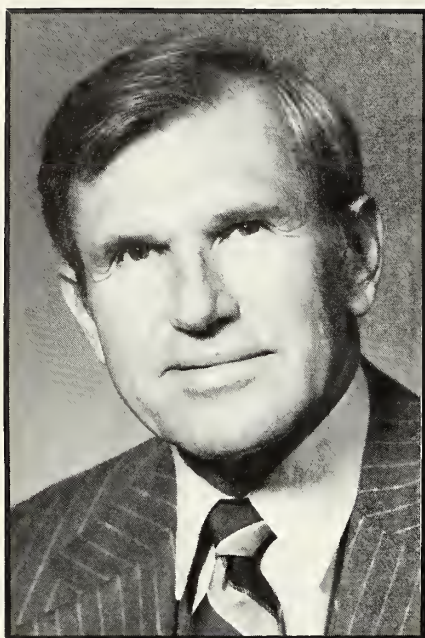
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## NEWS/PRODUCTS, PROGRAMS, ETC.

*Information on various products, programs, etc., is received regularly by the IMS JOURNAL. Here are short items sifted from the mail by the Scientific Editor. A reference to a specific product is not intended to suggest any particular endorsement. Additional information on any entry may be obtained by contacting the IMS JOURNAL.*

**NEW PRODUCT** — Schering Corporation has introduced Garamycin Intrathecal Solution for use as an adjunctive treatment of serious central nervous system infections, meningitis and ventriculitis, caused by susceptible *Pseudomonas* species. Peak CSF concentrations of Garamycin following intrathecal administration occur at 1 to 6 hours, with antimicrobial activity still present after 24 hours. When this new dosage form is given concomitantly with systemically administered Garamycin, it provides substantially increased gentamicin levels in cerebrospinal fluid. Standard adult dosage recommendations are 4 to 8 mg of Garamycin Intrathecal administered intrathecally once daily, plus 3 to 5 mg per kg of Garamycin per day, systemically, divided into 3 equal doses at 8 hour intervals. For infants 3 months of age and older: 1-2 mg of Garamycin Intrathecal once daily, plus 6-7.5 mg per kg per day systemically, divided into 3 equal doses and given every 8 hours.

**HELP FOR STUDENTS** — Funds come from numerous public and private philanthropic organizations to help medical students with financial needs. The problem is to find the source of such funds. A new guide has been published to provide medical students with sources of financial aid. **BARRON'S GUIDE TO FINANCIAL AID FOR MEDICAL STUDENTS** has been compiled by Dr. Stephen H. Lazar, Assistant Dean, Albert Einstein College of Medicine. It is available from Barron's Educational Series, Inc., 113 Crossways Park Drive, Woodbury, New York 11797; \$5.95 plus 10% handling charge.



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## PRESIDENT'S PRIVILEGE

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**W**E OFTEN HEAR the expression about change being the only constant. And there's a good measure of validity in that saying.

Change of the traditional nature has occurred in recent weeks at the Iowa Medical Society. The installation and election of certain new officers is complete and we are in the early stages of a new presidential term. My hope is that in 1980-81 our important organization will function as well as it did under Paul Seebohm.

There's now been completed a change in the organization of the IMS Board of Trustees. The 1979 House of Delegates approved a 7-member Board to consist of 3 trustees, president, president-elect, vice-president and immediate past-president. This unit is in place — with full voting privileges for all members — to perform the assigned management and fiscal duties.

Another change in the Iowa Medical Society organization involves our councilor districts. In May the 1980 House of Delegates ratified a plan to establish two councilor districts per Iowa congressional district. This move has certain potential legislative virtues and, more importantly perhaps, it divides the larger physi-

cian population areas into more manageable and serviceable units. Four new councilors have been chosen to serve under this plan; we look forward to their participation on the Judicial Council and Executive Council.

Other change is going on around us. New continuing medical education requirements for relicensure are in process for the first time. A new administration for the Iowa Medicaid program begins this month. New Society programming is available to assist troubled physicians and their families.

When change comes about after careful thought and planning — with experimentation whenever possible and with a bonafide positive potential in the offing — we can be supportive. We need to be sufficiently open to suggestions for change.

*William R. Bliss, M.D.*

**William R. Bliss, M.D.**



This Journal is owned and published monthly by the IOWA MEDICAL SOCIETY. It contains material of scientific and socioeconomic interest mainly to Iowa physicians. The IOWA MEDICAL SOCIETY has 2,900 member physicians in 92 county medical societies. The IMS Headquarters is at 1001 Grand Avenue, West Des Moines, Iowa 50265.

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# JOURNAL OF THE IOWA MEDICAL SOCIETY

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**ABOUT THE COVER** — The changing of the guard occurred May 4 when Paul M. Seebohm, M.D., Iowa City (shown on the left in the cover photo), passed the Iowa Medical Society presidential medallion and gavel to his successor for 1980-81, William R. Bliss, M.D., Ames. The remarks made by these two presidents to the 1980 IMS House of Delegates appear beginning on page 238 of this issue.



# Progress of Medicine

*Iowa medicine has seen more than its share of political and social scrutiny. It has responded well in correcting some of the basic concerns. The progress in medical manpower is one good example of a constructive response.*

PAUL M. SEEBOHM, M.D.  
Iowa City, Iowa

THIS HAS BEEN a year in which medical issues in the public sector seem to have peaked out. Many matters that seemed all-consuming over the past several years have either been resolved, have succumbed to apathy or

This discussion was presented to the opening session of the Iowa Medical Society House of Delegates by 1979-80 President Paul M. Seebohm, M.D.

have been over-shadowed by more important public issues.

- *Professional liability may not yet have run its course, but it certainly has become stabilized.*

- *Health programming in Washington is on the decline, National Health Insurance is at a standstill and the Federal Trade Commission is undergoing a defanging by the Congress.*

- *Cost containment problems in health*

# Ever Present Challenge: Cost

*Signal importance is attached to the cost of health care in today's society. The matter must receive priority attention from Iowa physicians if we are to preserve the manner in which we now practice medicine.*

WILLIAM R. BLISS, M.D.  
Ames, Iowa

THERE ARE many problems ahead of us in the coming years. Many of them have been considered by the 1980 Iowa Medical Society House of Delegates. I would like to go into more detail on one.

It is said that the decade of the eighties will be the decade of denial or the decade of constraint. I believe either of these terms is applicable. We are witnessing the distressing deple-

These brief comments were presented by Dr. Bliss on May 4, 1980, following his installation as president of the Iowa Medical Society.

tion of our national resources. Energy reserves, our waterways, soil and atmosphere are widely publicized concerns.

The amount of the Gross National Product the United States can allocate to these areas is matter for extensive debate. It comes down to the question of whether we can handle these problems satisfactorily without undermining our economy.

Among the country's concerns is the rising cost of health care. We believe we have the best and most pro-

gressive health care system in the world. Our people want the absolute best medical care that is available. The question is whether we can afford it.

## DECREASE INCREASE

It is apparent that a majority of government and business leaders, and many of our patients, believe the rate of increase in the amount of Gross National Product spent on health care must be decreased. In fact, 1979 legislation to apply mandatory controls on hospital charges was defeated only after the American Medical Association, the American Hospital Association, the Federation of American Hospitals and others accepted the challenge to restrain voluntarily the increase in health care costs. The results thus far have been encouraging. The increase in health care costs has been below the inflationary rate since January, 1978. Physicians' fee increases have been less than the average for the rest of the health care industry. However, the campaign has only started. It appears these concerns will be with us for a long time.



care have been submerged by runaway inflation of the general economy.

- The Iowa State Legislature, preoccupied with fiscal matters, seems to have shut down its science fair featuring Laetrile, raw milk, marijuana, and the creation theory of genetics.

- The doctor shortage being over has been moved off the front page by the new scientific breakthrough, "The new electrical treatment of end-stage kidney disease and cystic fibrosis."

The AMA's major organizational problem seems to be membership, and considerable study has been given to this matter in the past year. At the same time, IMS membership has reached an all-time high, just short of 3,000 physicians.

I think it is important to note that approximately one-third of the medical students (20,000) and one-third of the housestaff (20,000) are members of the AMA, both constituting the fastest growing component of the Association. However, tracking studies of student and housestaff members of the AMA do not show a transfer of this interest to county and

state societies when they enter medical practice. All of the reasons for this gap are not known, but one factor seems to be the lack of aggressiveness in recruiting residents to join organized medicine at the county and state society levels.

Therefore, in an endeavor to improve this situation in Iowa, the Board of Trustees has set up a committee to study the feasibility of forming a resident section in the Iowa Medical Society to aid in recruitment of residents as members and encourage their participation in Society affairs.

#### NEW IN PRACTICE

It is critically important to facilitate the entrance of young physicians into the medical profession and its many organizations. The numbers are too great to leave to chance. In 4 years over 60,000 physicians will begin practice —  $\frac{1}{2}$  of the current physicians in practice in the U. S. In Iowa, 1,000 new physicians can be expected to enter practice —  $\frac{1}{3}$  of the current physicians in practice. Physicians are

leaving practice earlier for a number of reasons, so in the same 4 year period in Iowa some 700 physicians can be expected to leave practice.

There is no question that medicine is becoming a younger man's or woman's game. Where the mean age will fall is difficult to predict, but certainly it is getting close to the career of an airline pilot who spends 20 years becoming Captain, a position he holds another 20 years before retirement.

With the increased rate of professional turnover there is the increased rate of introduction of new skills, technologies, attitudes, practice styles, and social and domestic mores. All of which has the effect of shortening the time frame of change in the standards of medical practice. A figure of 1,000 new types of operations introduced a year quoted at one of the meetings recently gives some measure of the rate of these changes. All of which makes smooth assimilation of new physicians all the more important.

(Continued on page 240)

It will not be easy to succeed in this effort. What we are trying to do is reduce the rate of increase of health care costs without reducing the quality of medical care. And we are doing this at the same time we are adding new, more sophisticated techniques and procedures to our medical armamentarium.

#### How best can physicians help?

First, by educating the public and the health care professions about the problem at hand. This needs to be an ongoing and continuing process. The public must understand that medical care can be provided increasingly in a quality form on an outpatient basis. The expensive nature of the hospital must be emphasized on an ongoing basis so patients will recognize a shorter stay is saving them money and still not jeopardizing their health. We need to engage in earlier and more aggressive discharge planning. Insurance companies will need to become more involved with outpatient health care expenses and also with the consideration of first dollar coverage.

As part of these efforts, the physician, and the patient, must be encouraged to use greater discrimination in the use of laboratory, radiological and other diagnostic procedures. It has been said too there may be need for greater discretion in the use of highly skilled treatment areas such as intensive care or coronary care units.

#### CAREFUL CONSIDERATION

Iowa physicians must continue to consider carefully any fee increases. Fees charged for new procedures must be determined from a realistic review of what is invested in time, material and special know-how.

Two closing points are worthy of re-emphasis: (1) physicians must continue to inform and educate themselves, their patients, other physicians and other health care providers concerning the cost of health care, and (2) a successful solution to the problem will be necessary if we are to maintain our present system, a system which has led us to the high quality of medicine we enjoy today.



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## MEDICAL PROGRESS

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The current popular concern that too many physicians are now being trained has been of special interest to the College of Medicine, as well as organized medicine. In Iowa, the projected growth in physician supply based on present enrollments in the College of Medicine will be much less dramatic than at the national level because Iowa has much more catching up to do than the more urbanized regions of the country.

Although the expansion of the medical school system was stimulated by Federal initiatives, it was actually carried out by State and community interests with a primary con-

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***"... Iowa has much more catching up to do than the more urbanized regions of the country."***

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cern for correcting local shortage and maldistribution of physicians. Many of the state schools have instituted preferential admission policies for state residents, primary care preceptorships and community-based residency training programs designed to encourage the retention of physicians within their state. The effect of these programs has been to minimize the mobility of physicians and thus their out of state migration.

We are seeing this now in Iowa. In 1970 there were 102 graduates of the University of Iowa College of Medicine in residency training in Iowa compared to 256 in 1979, a growth in retention of 250%. 55% of the graduates of the Iowa Family Practice residencies select Iowa locations in which to practice, demonstrating the importance of the residency as a determinant of practice location of the physician. Even so, Iowa still needs to import physicians to replace the average loss of 160 physicians a year. In 1977, 215 M.D.'s entered practice and 159 left practice for a net gain of 56. Slightly less than half of these physi-

cians (99) had some part of their training in University of Iowa programs. The other half, who trained outside of the State, migrated to Iowa. As this trend for physicians to practice where they train progresses, Iowa will become more and more dependent upon Iowa trained physicians to replace those leaving practice (160) and still keep up with population growth.

Reducing the medical class size could very well place Iowa in the position of needing to import physicians at a time of their declining mobility. It is well known that 85% of primary care physicians trained in the West and the South are retained in those regions and less than 7% of physicians trained in the Northeast locate in the Middle West.

It is evident that if Iowa is to maintain its momentum in correcting not only the shortage but the maldistribution of physicians in the next decade, it will be critically important to sustain the current enrollment of 175 students per year in the University of Iowa College of Medicine. The balance of the supply and demand of physicians is progressively becoming more and more of a regional problem, and whereas there may be an excess of physicians over demand in some parts of the country, particularly in

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***"... it will be critically important to sustain the current enrollment of 175 students per year in the University of Iowa College of Medicine."***

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the East, such is not occurring in Iowa, nor is it projected within the next decade.

It needs to be pointed out that physician shortages occur outside the rural and urban underserved areas. Federal and state hospitals, armed services, penal institutions, nursing homes, and academic institutions have been chronically understaffed for years and would be the first to benefit from a shift from a seller's to a buyer's market.

Lastly, a word about the interface between the profession and other health providers. I am pessimistic that we can ever do much through the public legislative sector trying to protect the consumer from the hazards of seeking "health" care outside the physician directed system. Not that we should not continue to try, but I am not hopeful of doing any better in

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***"I am pessimistic that we can ever do much through the public legislative sector trying to protect the consumer from the hazards of seeking 'health' care outside the physician directed system."***

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the future than we have been in the past. Scientific logic is drowned out by the shouts of the right of free choice, and what begins as a scientific discussion soon becomes a constitutional legal issue. If anything can be said to be a certainty, the legislative and political process is a poor forum in which to arrive at a scientific truth.

Medicine may have lost a few political battles, but professionally, it is strong. It is better skilled and technically equipped to keep the well well and treat the sick than any time in history. Furthermore, its educational and training programs have developed the manpower and professional skills to an advanced level.

The profession's business is to treat the sick. From all indications we are doing this well with prospects for doing it better in the future.

In the past 20 years, medicine has been subjected to more than its share of political and social scrutiny. Some has been helpful, some unfair, and some for political gain. Frankly, I think we have responded well in correcting some of the basic problems of medicine: specialty and geographic maldistribution, inaccessibility, physician shortages, and quality control of standards of practice. Seemingly, the political arena needs less of medicine, and it is my view we will do very well with less of politics.



# THINGS YOU SHOULD KNOW

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**1980 HOUSE ACTIONS**      Actions of the 1980 IMS House of Delegates were summarized in the May IMS UPDATE. This year's deliberations covered physician's assistants, re-organization of Society councilor districts, screening programs for the elderly, the IMS assistance program for troubled physicians, retention of existing IMS dues, etc. Installation of W. R. Bliss, M.D., Ames, as IMS president occurred; John H. Kelley, M.D., Des Moines, was chosen president-elect; John E. Tyrrell, M.D., Manchester, trustee, and Emmett B. Mathiasen, M.D., Council Bluffs, vice-president. All other officers were re-elected. A further summary of the IMS House will appear in the July IMS JOURNAL.

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**2070 ENDS OKAY**      As reported in a May 7 IMS Legislative Bulletin, 1980 legislative consideration of physician dispensing ended favorably. The issue was salvaged when an IMS-backed amendment got tacked onto Senate File 2070. The bill was passed and served to void a 1979 opinion of the attorney general to restrict delegation authority for dispensing physicians. 2070 returns dispensing customs to the way they were prior to the opinion and calls for an interim study of drug dispensing practices. The issue was catapulted into a priority IMS position in the closing days of the General Assembly.

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**TITLE 19 MOVES**      First of July is the time when Iowa Medicaid claims come under processing of Systems Development Corporation. SDC captured the contract with a substantially lower bid. SDC officials have met with IMS representatives to stress their desire to serve providers efficiently. Certain key supervisory personnel in the Medicaid area at Blue Cross/Blue Shield have joined SDC. A series of regional information meetings is planned in June for provider personnel.

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**BME GETS SOME \$\$\$**      \$16,000 for fiscal 1980 and \$13,000 for fiscal 1981 were granted supplementally to the Board of Medical Examiners to cover increased administrative costs. A substantially larger request to hire additional investigators was denied.

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**STANDARDS**      Health planning standards applicable to CT scanning will come before the Statewide Health Coordinating Council on June 11. These revised standards have had IMS input and seem acceptable. If approved by the SHCC, they move on to the Board of Health and the Administrative Rules Committee for further consideration. The new appropriateness review activity is addressing initially end stage renal disease and next specialized cardiovascular services.

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**FOUNDATION BUSY**      The Iowa Foundation for Medical Care does UR for federally covered patients in 131 Iowa hospitals. Also, 61 hospitals have private review under IFMC auspices. Medicare lengths of stays dropped to 9.6 days average in 1978 from 10.2 days in 1977.

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**UNLIMITED DXL**      Those physician participants in the IMS Statewide Health Program provided through Blue Cross/Blue Shield will have unlimited diagnostic, x-ray, and laboratory benefits added to their coverage on July 1 or with the first premium payment thereafter. A slight increase in rates will be made.

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**HEALTH PLANNING**      Federal mandates are forcing changes in board composition of health systems agencies (HSA). The IHSA considered such revamping measures in May. It's required at least 51% of the IHSA board be consumers. At present the process for selecting provider representatives (there are 13 on the IHSA board) is being changed. An external selection procedure is being sought for certain providers and consumers. Prospects appear good the medical profession will preserve adequate IHSA board representation.



## QUESTIONS - ANSWERS

RUSSELL W. CURRIER, D.V.M.  
DES MOINES, IOWA

### TRAVEL AND VACATION HAZARDS

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*Dr. Currier is Chief, Division of Disease Prevention, for the Iowa State Department of Health. He comments here about problems more prevalent in summer months.*

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#### **Rocky Mountain Spotted Fever increased in incidence during 1979. What facts may be helpful in diagnosis and treatment?**

Consider this diagnosis during spring and summer in patients with acute onset of fever and appearance of rash on wrists and ankles 1-3 days later. This rash resembles measles and later spreads over the body. Tetracycline and chloramphenicol are both effective in treatment. With early treatment (first day or two of rash), the fever usually falls within 48 hours. Without specific treatment the death rate is around 20%. History of tick bite 3-10 days before onset helps with diagnosis; confirm with complement-fixation tests. Campers should check themselves frequently for ticks; 4 to 6 hours of attachment are required for transmission. You can gently pull ticks off with your hand. If tweezers are available, grasp the tick by the head, close to site of skin attachment and carefully remove without crushing.

**Other than traumatic injury and drowning, what hazards may be associated with swimming?**

"Swimmer's itch" or more properly "cercarial dermatitis" may affect swimmers in lakes where aquatic birds shed eggs of several species of schistosomes. After intermediate development in snails the free swimming cercaria can infect other birds or accidental hosts such as man. After water drains off the skin the cercaria burrow into the skin via a hair follicle. The cercaria cannot reach the blood stream and ultimately die in the skin resulting in erythema and occasionally local or general urticaria.

After the initial irritation subsides, a macule develops and, in a few hours, intense itching occurs followed by development of papules. The reaction reaches its maximum between the second and third day, then gradually subsides in a week or more. Repeated infestations tend to be more severe. No specific treatment is needed, but local and/or systemic symptomatic treatment to reduce itching and scratching may prevent skin trauma and secondary infection. Swimming areas can be treated with copper sulfate to kill snails.

#### **What problems may be associated with swimming pools?**

Epidemics of pharyngoconjunctival fever due to several types of adenovirus have been documented. These outbreaks have been associated with intermittent or faulty chlorination. The illness characteristically affects children and young adults. The incubation period is probably 2-14 days. Secondary person-to-person transmission may occur. Suspected cases should be questioned for swimming in unchlorinated water or hand chlorinated swimming pools. Treatment is symptomatic.

In Iowa we have received several anecdotal accounts of skin infestations in persons who have used commercial motel whirlpool baths. These have presented as papules containing a small pinpoint whitish yellow center which yielded pseudomonas organisms in most cases. Some of these have been misdiagnosed as scabies and inappropriately treated. Evaluate history during examination. Proper cleaning, maintenance and chlorination should alleviate this problem.

*(Continued on page 267)*



# VOX DOCS

At the bottom of this page is this month's Vox Docs question. Please answer it and send to IMS JOURNAL, 1001 Grand Avenue, West Des Moines, Iowa 50265. Last month's question and answer results are shown to the right along with several of the comments we received.

I am troubled and personally hurt by the term "holistic medicine" used to describe non-traditional medical approaches. I try very hard, and devote substantial time, to caring for the whole patient with *all* the means at my disposal as a well trained, sophisticated (and I hope) compassionate practitioner. In other words, holistic medicine is and should be the practice of contemporary medicine in a personal and intelligent manner. "Holistic" medicine in the *other* sense is truly the limited, shortsighted approach to patient care. — Peter J. Reiter, M.D., Ottumwa

This trend represents the frustration that some people have with our conventional medicine therapies. — Randall R. Maharry, M.D., Des Moines

More power to "holistic" medicine. It will lower the population of fools. — J. M. Rhodes, M.D., Pocahontas

## LAST MONTH'S QUESTION —

The media has reported recently, the apparent increasing popularity of "alternative medicine." Vitamins, herbs, food supplements, meditation, natural healing are mentioned often. "Holistic" medicine is talked of. How do you feel about this trend (if it is a trend)?

<b>GREATLY CONCERNED</b>	<b>25%</b>
<b>IT'S ALWAYS EXISTED</b>	<b>75%</b>

The holistic concept is a very valid aspect of today's medical care but encompasses much more than vitamins and food supplements. Looking at our patients in the context of their whole lives, including diet, smoking, alcohol and psychological habits, is essential if we are to help people stay healthy as well as treat their ailments. — James R. Young, M.D., Cedar Falls

Holistic medicine has been present since the beginning of man. Many of our present medications came from the herbs, barks, etc., used in the past. However, with the increased advertising of vitamins and fads, the excessive substances consumed by the patient can be detrimental to his/her health and to this extent I become concerned. — A. D. Harves, M.D., Dubuque

## JUNE QUESTION FOR IOWA PHYSICIANS

National Blue Cross/Blue Shield has reported an experiment in which reimbursement will be made to a hospital on a capitation basis for each patient who is a subscriber with the institution. In return for the payment, the hospitals will assume responsibility for covered hospital care. The object is to create financial incentives for more efficient and effective care. What do you think of the idea?

☐ Sounds Good ☐ Unrealistic ☐ No Opinion

Comment, please: \_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

(Please Send to IMS JOURNAL, 1001 Grand Ave., West Des Moines, Iowa 50265)



## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

### CELIBATE KNOWLEDGE

Here's an interesting comment — try it on your brain for size: "Knowledge cannot remain celibate; it must mate with action." Now reflect on that a moment.

Do you accept it? Many of today's leaders in continuing medical education seem to. It sometimes causes them to make denigrating remarks about "knowledge for its own sake." They argue that the purpose — in fact, the only purpose — of CME is to improve health care. If you buy that assertion and are a CME provider, you will design CME with an eye strictly on the practical payoff. And you'll probably feel that CME has been of little or no worth unless you can demonstrate that payoff in the data of physician performance or of patients' health outcomes. And if you're a CME "consumer," you'd probably not want to waste your time, effort and money to gain knowledge unless it could be put to use promptly in patient care. This is the existential position that leads a learner to say to a teacher, "Tell me 'pearls' of instant utility — all the rest is dross."

But consider how much slime and oyster

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Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

### MAY CME MEETING

Over 20 physicians and others were at IMS Headquarters May 21 for a meeting on how to plan and present continuing medical education. This second CME how-to-do-it conference was sponsored by the Iowa Medical Socie-

ty and the University of Iowa College of Medicine.

shell must be sorted and discarded to find the true pearl. And how much ore must be mined, or creek-bed panned to locate the pure gold? The value of pearls or gold lies only in their scarcity.

The opening quote has pleasure and pungency for me in its balancing, around that central semicolon, of knowledge with action, and celibacy with mating. John S. Brubacher wrote that sentence in his 1939 book, *Modern Philosophies of Education*. By 1939 the behaviorist school of psychology and education had achieved full flower, and this quote masterfully epitomizes that movement. The idea's also been expressed colloquially by a forceful character in Neil Simon's comedy, *Last Of The Red-Hot Lovers*: "If you can't see it, taste it, or feel it, forget it!"

I wouldn't want you to think I disagree with the importance of making CME actively useful in providing prompt payoff and improved health care. I guess I view it more broadly, though, since these seem to me worthwhile: providing reassurance to the harassed practitioner; offering general and specific scientific background and update; delivering historical, cultural, and social perspective; supplying issues that exercise the skill in making moral and value judgments as well as solving clinical problems. One might argue that all of these activities truly provide at least part of what's needed to enable a physician to give better care and improve health outcomes — and that would please me. But there are times when the connection between these intangibles and health outcomes may not be apparent to common sense, or not measurable with our best evaluatory tools, or maybe not even existent; yet I hold these intangibles as meritorious nonetheless. Knowledge as an intellectual acquisition, a phenomenon of the mind, an idea (as with Plato) totally divorced from action — I think it *can* remain "celibate" and "unmated." Which perhaps just shows you what a strange bird I am.

ty and the University of Iowa College of Medicine.

As the kickoff speaker, Leonard S. Stein, Ph.D., executive director, Illinois Council on Continuing Medical Education, discussed CME as a factor bearing on clinical competence.



# Primary Care Physicians and Prospective Medicine

REUBEN B. WIDMER, M.D.

Iowa City, Iowa

*"An ounce of prevention is worth a pound of cure."* This is an axiom most people agree with and talk about. But rarely do they practice it. The significant increases in longevity have come about primarily because of improved sanitation, refrigeration, improved housing and working conditions, and to a lesser degree, immunizations and antibiotics. Over the last 2 decades, the practice of medicine and surgery has had little to do with increasing longevity. The physician's role has been to treat acute episodes and institute those preventive measures needed for specific diseases.

U. S. longevity tables have leveled off. The big killers no longer seem amenable to any mass change by health, sanitation and housing professionals, as was the case in the 20's and 30's. Today, changes must come from the willingness of society members to alter life-

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*The principles of prospective medicine can extend life expectancy. So says the author in explaining what is called the Health Hazard Appraisal. The odds faced by the obese hypertensive smoker are set forth to dramatize how the system can be made to motivate those individuals at highest risk.*

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styles. The leading causes of adult death, such as arteriosclerotic heart disease, accidents and malignancies of the lungs, and strokes are often the result of lifestyle. Attempts to educate the public have met with varying success. The concept of prospective medicine is proposed as a tool to change attitudes toward diet, seat belts, smoking, etc.

The primary care physician and his team can be effective patient educators. Recommendations, prohibition, scolding patients into changing their lifestyles, this is the approach used in most medical offices today. The failure rate is high, the result is a loss of interest by the physician and his staff.

To paraphrase our opening proverb, "a ton of cure is a bigger ego trip than an ounce of prevention." The frustration which accompanies the many failures to convince patients

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Dr. Widmer is an associate professor, Department of Family Practice, University of Iowa College of Medicine.

to lose weight, stop smoking, fasten seat belts, etc., makes the physician leery of adopting any new method of preventive medicine.

However, there is a need to be open to new possibilities. The Health Hazard Appraisal (or prospective medicine) is a new means of presenting objective evidence on health hazards to patients. Hopefully, this approach can overturn some of the frustration and inertia.

First, there is the need to differentiate between health care and medical care. The word "health" comes from a stem meaning "whole," whereas medical is derived from the Latin root "to heal." Appraising health hazards with the prospective view of using that appraisal to improve individual health is quite distinct from medical care when it is applied to individuals after their disease process is evident. Health care by the former approach is a prospective program designed to maintain the "wholeness" of society members. Implementation of this program is the responsibility of the individual, not the physician. The medical profession can accept responsibility for medical care but it has to withdraw from total responsibility for people who are reluctant or unwilling to delete correctable health hazards.

The precursor or determinants of most ill-

ness that people encounter are of a health origin. For example, the known determinants of atherosclerotic heart disease are sedentary life, cigarette smoking, obesity, uncontrolled diabetes, increased cholesterol, blood pressure and family origin. Most of these are present or absent depending upon the individual's lifestyle and habits. Positive action relating to these must be individually initiated to preserve health. More over, the precursors of homicide, carcinoma of the lung, cirrhosis, and motor vehicle and other accidents are not as amenable to medical intervention, as they are to intervention by individuals, society or legislative action. This does not release the medical profession from responsibility to provide leadership in changing people's attitudes and actions through education and example. Health hazard appraisal is an excellent tool to provide the patient-physician partnership with essential information for prospective health care (Maning: 7th Annual Meeting Prospective Medicine).

PROSPECTIVE MEDICINE

The health hazard appraisal system makes four assumptions: (1) disease has a natural history that is not evident in the beginning but  
(Continued on page 250)

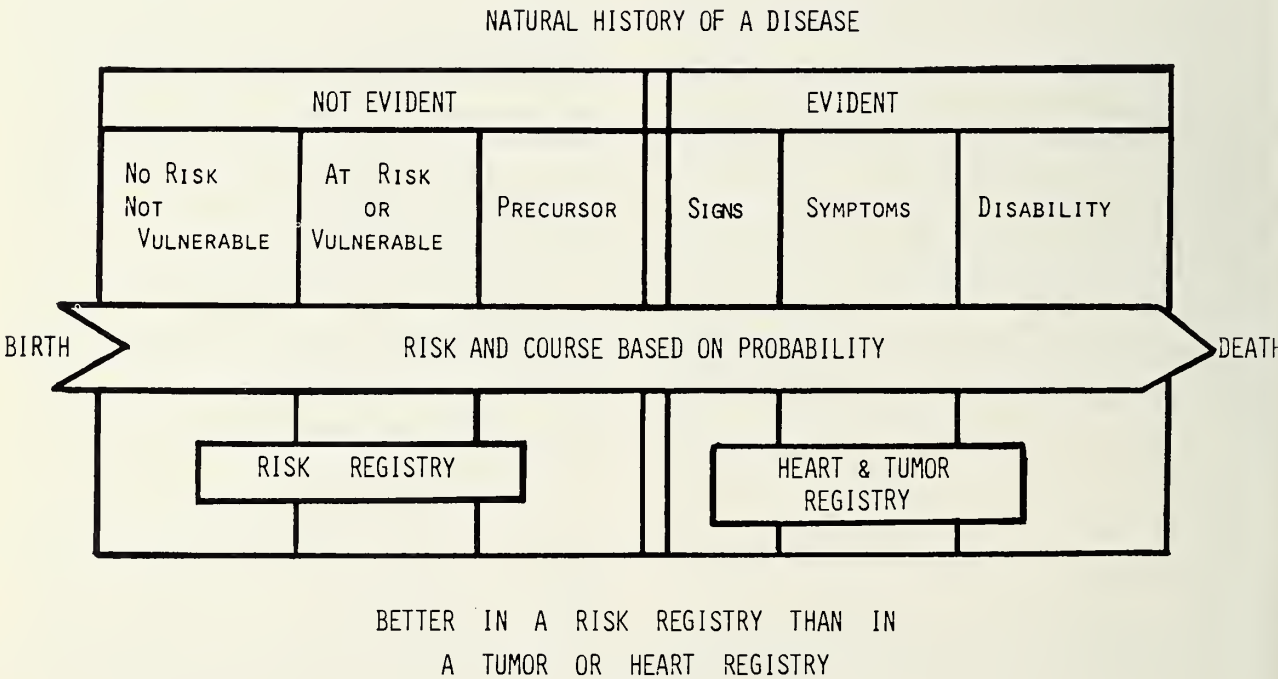


FIGURE 1



# ANUSOL-HC®

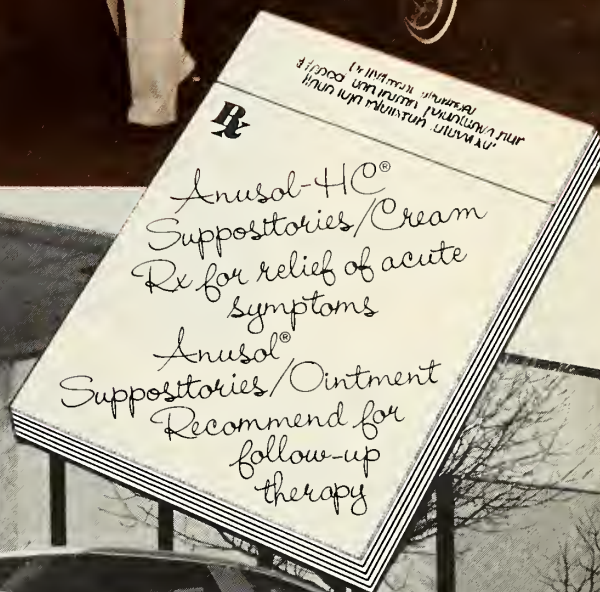
SUPPOSITORIES/CREAM WITH HYDROCORTISONE ACETATE

#1 prescribed hemorrhoidal product

IT WAS  
NUMBER ONE  
IN 1959

AND IT STILL IS...

The professional source of  
modern anorectal comfort



#### ANUSOL-HC® SUPPOSITORIES

Hemorrhoidal Suppositories

#### ANUSOL-HC® CREAM

Rectal Cream with Hydrocortisone Acetate

**Caution:** Federal law prohibits dispensing without prescription.

**Description:** Each Anusol-HC Suppository contains hydrocortisone acetate, 10.0 mg; bismuth subgallate, 2.25%; bismuth resorcin compound, 1.75%; benzyl benzoate, 1.2%; Peruvian balsam, 1.8%; zinc oxide, 11.0%; also contains the following inactive ingredients: dibasic calcium phosphate, and certified coloring in a hydrogenated vegetable oil base.

Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg; bismuth subgallate, 22.5 mg; bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

**Indications:** Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, anal fissures, incomplete fistulas and relief of local pain and discomfort following anorectal surgery.

Anusol-HC Cream is also indicated for pruritus ani.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol® Suppositories or Ointment.

**Contraindications:** Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations.

**Warnings:** The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

**Precautions:** Symptomatic relief should not delay definitive diagnoses or treatment.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued and appropriate therapy instituted.

In the presence of an infection the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled.

Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Anusol-HC is not for ophthalmic use.

**Dosage and Administration:** Anusol-HC Suppositories — Adults: Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at

bedtime for 3 to 6 days or until inflammation subsides. Then maintain patient comfort with regular Anusol Suppositories.

**Anusol-HC Cream — Adults:** After gentle bathing and drying of the anal area, remove tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain patient comfort with regular Anusol Ointment.

**NOTE:** If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

**How Supplied:** Anusol-HC Suppositories — boxes of 12 (N 0047-0089-12) and boxes of 24 (N 0047-0089-24) in silver foil strips with Anusol-HC W/C printed in black.

Anusol-HC Cream — one-ounce tube (N 0047-0090-01) with plastic applicator.

Store between 59°-86° F (15°-30° C).

Full information is available on request.

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00022 PD-JA-0234-1-P

**PARKE-DAVIS**  
Div of Warner-Lambert Co  
Morris Plains, NJ 07950 USA



# EXAMPLES

	NO RISK	VULNERABLE	PRECURSOR	SIGNS	SYMPTOMS	DISABILITY
CA OF LUNG	0-10 YR.	11 YR. + ↑	SMOKING AIR POLLUTION	X-RAY BRONCHIAL WASHINGS	COUGH HEMOPTYSIS PAIN	METASTASIS
ASHD	0-20 YR.	20 YR. + ↑	BLOOD PRESSURE OBESITY HYPERLIPIDEMIA SMOKING	L.V.H. HEART FAIL LARGE HEART MURMUR	ANGINA DYSPNEA	M.I.  SEVERE FAILURE
PERIPHERAL VASCULAR DISEASE	0-30 YR.	30 YR. + ↑	SMOKING HYPERLIPIDEMIA BLOOD PRESSURE	BRUIT POOR PULSE	COLD EXTREME INTERMITTENT CLAUDICATION	LOSS OF LEG
STROKE	0-45 YR.	45 YR. + ↑	HYPERTENSION SMOKING HYPERLIPIDEMIA ALCOHOL	EYE- GROUND CHANGES	TIAs WEAKNESS DIZZINESS	STROKE $\bar{c}$ PARALYSIS

FIGURE 2

progresses to an evident stage; (2) all persons in a specific age-sex-race group have a statistically known death risk over the following 5 years (death tables); (3) known average risks to disease and death may be adjusted for an individual patient; and (4) based on an individual patient's risk, a health program can be followed to minimize the risk of disease.

The natural history of a disease is shown in Figure 1. This diagram depicts the natural course of a disease, not the patient. The columns are diagrammatic to demonstrate a point. Any one of them may represent many years, or for some disease, do not exist at all, as will be shown in Figure 2.

The history of a disease is divided into 2 main parts — *before it happens and after it happens*. Before a disease happens, 3 conditions are present, divided here into 3 parts as periods of time in the life of the host. The period when the host is not vulnerable (or at no risk) will vary among diseases. The vulnerable block of time will again vary in length based on when in the life of the host it starts. Some may begin at the time of conception, due to certain inheritable genes. The third time period is when there are precursors for a disease in a person's lifestyle. These precursors have a definite relationship to the development of that disease in the host.

The time these precursors need to be present before the host develops signs and symptoms is variable. It depends on many factors such as natural resistance and the host's immunity.

This brings us to 3 time segments of the "happens" stage of a disease. The signs here are those usually found in screening tests such as the x-ray or the Pap smear. The symptoms are the result of the disease process, and it is usually at this stage the patient enters the medical care system. The last block depicts the general result of uncontrolled disease leading to disability and, if severe enough, on to death. Figure 2 depicts the natural history of specific diseases.

The second assumption is the probability of death. This is based on Harvey Geller's Tables, "Probability Tables of Death in the Next Five Years From Specific Causes," taken from U. S. Vital Statistics of 1968:

(a) Death rate per 100,000 was calculated by population groups according to age, sex and color, e.g., white male, age 50.

(b) The 10 to 15 first causes of death are then listed giving deaths per 100,000. From these figures is calculated the probability of death for each group during the next 5 years from a specific cause.

(c) There is a basic probability of death for each age



# An added complication... in the treatment of bacterial bronchitis\*



## Brief Summary. Consult the package literature for prescribing information.

**Indications and Usage:** Cefclor® (cefclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

*Lower respiratory infections*, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

**Contraindication:** Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

**Precautions:** If an allergic reaction to cefclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

**Usage in Pregnancy:** Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

**Usage in Infancy:** Safety of this product for use in infants less than one month of age has not been established.

## Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis\*—are sensitive to treatment with Cefclor.<sup>1-6</sup>

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.<sup>7</sup>

# Cefclor®

## cefclor

Pulvules®, 250 and 500 mg

**Adverse Reactions:** In clinical studies in 1493 patients, adverse effects considered related to cefclor therapy were uncommon and are listed below.

*Gastrointestinal* symptoms occurred in about 2.5 percent of patients and included diarrhea (1 in 70) and nausea and vomiting (1 in 90).

*Hypersensitivity* reactions were reported in about 1.5 percent of patients and included morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occurred in less than 1 in 200 patients.

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory tests results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[0703798]

\*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.<sup>8</sup>

**Note:** Cefclor® (cefclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G. L. Mandell, R. G. Douglas, Jr., and J. E. Bennett), p. 487. New York: John Wiley & Sons, 1979.



Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.  
Eli Lilly Industries, Inc. Carolina, Puerto Rico 00630

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FIGURE 3

Arteriosclerotic Heart Disease (ASHD)	
PRECURSORS	
1. Hypertension	
2. Hyperlipidemia	
3. Obesity	
4. Smoking	
5. Family history	
INTERVENTION	
1. Control B.P.	
2. Proper eating habits	
3. Stop smoking	
4. Pick ancestors wisely	

TABLE I  
10 IOWA DOCTORS

Health Hazards	5 High Risk	5 Low Risk
1. ASHD	42.12%	7.26%
2. Motor vehicle	6.00%	9.36%
3. Cirrhosis of liver	4.56%	0%
4. Stroke	3.38%	.56%
5. Pneumonia	1.74%	3.48%
6. CA rectum	1.32%	3.82%
7. CA lung	1.26%	0%
8. Arterial disease	.48%	0%
9. Suicide	.24%	0%
10. Residual	38.90%	75.52%

Most frequent Health Hazards of the 5 High Risk doctors with the composite percentage of the degree of risk. These are compared to the 5 Low Risk doctors composite percentages.

TABLE II

Life Styles	5 High Risk	5 Low Risk
1. Reduce cholesterol	.82 yrs.	0 yrs.
2. Exercise program	1.36 yrs.	0.18 yrs.
3. Lose weight	0.86 yrs.	0.06 yrs.
4. Stop smoking	0.60 yrs.	0 yrs.
5. Cut alcohol	0.58 yrs.	0 yrs.
6. Lower blood pressure	1.34 yrs.	0 yrs.
7. Rectal exam	0.10 yrs.	0.32 yrs.
8. Use seat belt	0.08 yrs.	0.08 yrs.
9. See psychiatrist	0.02 yrs.	0 yrs.
	5.76 yrs.	0.64 yrs.

The suggested life style changes and the average years or fraction thereof that could be added with compliance by the high and low risk groups.

"Residual" is the sum of the risks of those causes of death that cannot be reduced in any way known, or of such a low percentage as to be statistically insignificant.

group according to sex and color during the next 5 years, e.g., 25-year-old white males have the probability of dying in an auto accident at the rate of 526 per 100,000 before they reach age 30. This is a group probability. An individual does not have a probability.

The third assumption is "known average risks to disease and death may be adjusted for the individual patient."

(a) The first step is the risk registry which provides a quick checklist of items (objective and subjective) needed to do a patient's health appraisal. There are computerized systems where the completed questionnaires are processed. The resulting printout (appraisal chart) contains the list of health risks and what can be done to change these risks and what this means to the patient in terms of longevity.

(b) The second step is to discuss with the patient the information on the appraisal chart. Hopefully, the objective, actuarial data will improve the patient's willingness to change his lifestyle. The elimination of certain health risk factors (disease precursors) could increase longevity and hopefully improve the quality of life.

(c) The weakness of this whole system is the unreliability of death certificates.

(d) This could be improved greatly if we had reliable morbidity tables to use instead of death tables. No method of using such tables has yet been devised.

The last assumption is that an individual's risk can be changed by proper interventions. See Figure 3.

(a) Five precursors are listed in Figure 3 that can increase probability of arteriosclerotic heart disease which becomes the number one cause of death after age 35 in white males and both sexes in the black race.

(b) Four interventions should change the probability for the group involved. Only groups have a probability, individuals do not have a probability.

Factors which change an individual's risk from the statistical average are based on the history, physical and laboratory findings. For example, characteristics altering arteriosclerotic heart disease risk include cigarette smoking, high cholesterol, daily physical activity, family history of diabetes, elevated blood pressure, obesity, and family history. The patient's health prescription is based on pro-



grams which lower his individual risk — such as not smoking, getting regular exercise, and losing weight. Health hazard appraisal focuses on the well patient's health habits and his death risk over the next 5 years.

#### BEATING THE ODDS

A review of available literature reveals some interesting facts on beating the odds. The risk of heart failure among hypertensive patients was found to be six times that of normotensive persons. It was also shown that diastolic pressure alone, components of both diastolic and systolic pressure or the mean arterial pressure were no more important as precursors of heart failure than the systolic pressure alone.<sup>1</sup> To await onset of symptoms due to target organ involvement seems imprudent. It has been demonstrated that vigorous management of moderate and severe hypertension does delay failure and early mortality.<sup>2</sup> In another study, 85% of atherothrombotic brain infarction victims were hypertensive and 15% were normotensive. There was little doubt in this study that hypertension is a precursor contributing powerfully to the occurrence of strokes.<sup>3</sup>

The three risk factors — hypercholesteremia, hypertension and cigarette smoking — have been examined in combination and separately as risk factors for coronary heart disease. These three are not the only coronary risk factors; in a given individual other factors may assume greater importance. However, the three mentioned are the most prevalent in the population at risk. In people who smoked regularly, the risk increases steadily with the number of cigarettes smoked per day. The relationship is quantitative and continuous.<sup>4</sup> Heavy cigar and pipe smoking is associated with the development of lung cancer but they present a lower risk of lung cancer than cigarette smoking.

Obesity is associated with four types of hazards, not necessarily a cause and effect. (1) Changes in various normal functions; (2) Increased risk of developing certain diseases; (3) Detrimental effect on established diseases; and (4) Adverse psychological reactions.<sup>5</sup>

For men with one risk factor over none, the increase in probability of a major coronary event was 2.4 fold over a 10 year period. Those with any of the 2 risk factors had a fourfold increase probability of a major coronary event and a threefold increase in risk of death. For the men with all three factors, there was an

TABLE III

Patient Doto — No. 440			
Patient No.	440	Height	69. ins.
Age	42	Weight	190 lbs.
Sex	Male	Blood pressure	120/82
Race	White	Cholesterol	210
Patient Doto — No. 220			
Patient No.	220	Height	66 ins.
Age	57	Weight	220 lbs.
Sex	Male	Blood pressure	180/106
Race	White	Cholesterol	240

TABLE IV

Health Hazard	% of Total Risk
Major Health Hazards to Patient — No. 440	
Accidents: motor vehicle	17.2
Suicide	7.8
Arteriosclerotic heart disease	4.8
Homicide	3.2
Pneumonia	2.5
Cancer of intestines and rectum	2.4
Cirrhosis of liver	2.0
Residual factors (1.9% or less)	60.1
Major Health Hazards to Patient — No. 220	
Arteriosclerotic heart disease	76.2
Vascular lesions affecting CNS	7.0
Disease of arteries	2.4
Suicide	1.2
Residual factors (0.5% or less)	13.2

TABLE V

	Will Add
Suggestions for Increasing This Patient's (440) Expected Years of Remaining Life	
Having an annual Sigmoidoscopy	0.1
Always wearing your seat belt	0.1
Following a program of regular exercise	0.1
Reducing your weight to 165 pounds	0.1
Suggestions for Increasing This Patient's (220) Expected Years of Remaining Life	
Lowering blood pressure to 120/80	6.4
Following a program of regular exercise	1.7
Reducing your weight to 141 pounds	1.3
Reducing cholesterol level to 210 or less	0.3
Professional help to eliminate depression	0.1
Always wearing your seat belt	0.1

eightfold increased risk of a major coronary event and a fivefold increased risk of death.<sup>4</sup>

These health hazards need to be taken into account by the physician as he counsels the patient prospectively concerning his health. Whether using the objective data of Health Hazard Appraisal will cause a patient to change his lifestyle has not yet been documented. A number of studies are underway.

#### IOWA DOCTOR SURVEY

A "Health Risk Analysis Questionnaire" was sent to 15 Iowa physicians, 14 responded. They were picked at random. The "Health Risk Analysis Report" for the 5 high risk physicians are compared to the 5 low risk physicians.

The questionnaire requested various information, i.e. the medical history, health habits, lifestyle, safety habits and certain objective evidence such as weight, blood pressure, etc., of the responding physician. This information was fed into a computer programmed to give back the significant risk factors and how these factors would affect the doctor's life expectancy. The actuarial bases for the decisions were based on The Geller Tables which give the 10 to 15 most common causes of death for people in a certain age, sex and race group. For example, the white, male, age 40-44, has 1861 chances out of 100,000 of dying of arteriosclerotic heart

disease during the next 5 years, whereas only 339 per 100,000 would die of motor vehicle accidents. Table 1 compares the composite health hazards of the 5 high and 5 low risk physicians in percentages. It will be noted that some of these risks are higher in the low risk group, but the totals of correctable causes of death are greater in the high risk group. Sixty-one percent of the death risk in the high risk group are amenable to reduction by lifestyle changes.

Table 2 compares the same 2 groups as to time added to the life span through changing lifestyles and health habits. The figures are self-explanatory.

Table 3 shows the patient data reported by the computer. Table 4 compares the health hazards in order of likelihood and their percentage of total risk. Note the difference in the residual factors. Table 5 compares the same two doctors listing the suggestions for increasing their expected years of remaining life.

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## NEWS/PRODUCTS, PROGRAMS, ETC.

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**NEW COLUMN** — "About Your Medicines," is a new weekly column in lay language containing information about the most widely used drugs in America. It is being distributed by the United States Pharmacopeial Convention to some 2,000 newspapers nationwide.

**FOR SCHIZOPHRENIA** — Loxitane IM (loxapine hydrochloride) is a new rapid acting injectable formulation for the management of extreme manifestations of schizophrenia. It has been announced by Lederle Laboratories. This neuroleptic of the dibenzoxazepine class offers psychiatrists an effective agent for the rapid tranquilization of acutely disturbed

schizophrenic patients. The intramuscular form is indicated where rapid symptom control is required and administration of the oral dosage form is impractical. Loxitane IM is available in single dose (1 ml) and multiple dose vials (50 mg per ml).

**NEW INSULIN** — Iletin® II Pork is a new purified pork insulin product to be marketed by Eli Lilly and Company. A significant improvement in purity over previous pork insulins is achieved by a purification technique called ion-exchange chromatography. Iletin® II Pork will contain less than 10 ppm of proinsulin while the Iletin® manufactured since 1972 has contained between 300 and 3,000 ppm of proinsulin. Patients are cautioned to contact their physicians before using the new product because a change in dosage may be necessary for some patients.



# Two-Wheeled Motorized Vehicular Fatalities (Needless Head Injuries)

MICHEL W. ANDRÉ-KILDARE, M.D.

Des Moines, Iowa

The Iowa-Midwest Neurosurgical Society, calls your attention to the *progressive increase in fatalities among teen-aged motorcyclists* involved in motorcycle accidents. This persistent increase in fatalities necessitates a reconsideration as to the merits of the reinstitution of head protection legislation for this age group.

Head protection legislation is sanctioned by the Iowa-Midwest Neurosurgical Society and the Iowa Medical Society. The attached statistics compiled and graphed by the Governor's Highway Safety Office provide explicit documentation for this.

Much information has been and continues to be published regarding this category of head injury. It is not the intention to give a review of the subject; however, the collected statistics are impressive. They do not reflect the loss to society or the suffering of the families involved with these unfortunate young accident casualties. Nor do these statistics reflect the cost of extended and specialized medical care and rehabilitation for those who survive the injury but are left brain injured, neurologically impaired or otherwise disabled. This is even more impressive when we bear in mind that for each recorded fatality there are *twenty* non-fatal head injuries.

Michel W. André-Kildare, M.D., Des Moines, representative of the Iowa-Midwest Neurosurgical Society, is in the private practice of neurosurgery in Des Moines, Iowa.

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Deaths among Iowans from associated head injuries in motorcycle accident casualties dropped from 48% to 23% during the period of required headgear protection. They have now increased to 66%. These facts underwrite a need for the return of head protection legislation. The Iowa-Midwest Neurosurgical Society urges the use of required safety education courses and head protection for youthful and inexperienced cycle riders.

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TABLE I  
AGES OF MOTORCYCLE/MOPED FATALITIES

Age	1977	1978	1979
15 and under	5	10	10
16	2	4	2
17	1	2	3
18	5	9	8
19	5	3	11
20-24	28	24	24
25-34	16	16	15
35-44	5	2	8
45-54	2	3	3
55-64		1	
65-74		1	
Total	69	75	84

protective head covering. The severity of low velocity head injury can be markedly decreased and *often* eliminated by wearing a helmet.

There has been no definitive legislative action designed to curtail the growing pattern of head injuries among motorcyclists since repeal of the head protection legislation in 1976, even though this problem has been discussed many times through legislative channels. Before the institution of head protection legislation, deaths among Iowans from associated head injuries in motorcycle accidents was 48.9%. With use of protective headgear from September 1975 through June 1976, deaths among

Iowans from associated head injuries in motorcycle accident casualties dropped to 23.5%. Since the repeal of the head protection legislation, deaths then promptly increased to 40.4% by the end of 1977. Currently the death rate is 66.2% from head injury associated with motorcycle accidents.

#### 4 YEAR TABULATIONS

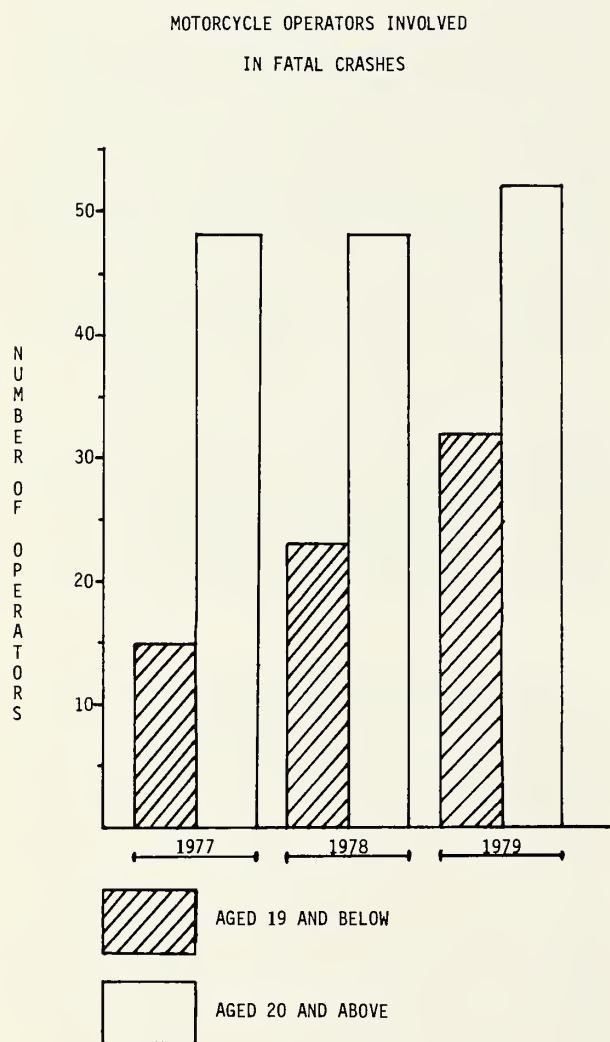
The tabulations of the last four years demonstrate without question what is already well documented in medical, neurosurgical, sports, industrial, military and safety transportation literature both here and abroad. Head protection saves lives and reduces the severity of head injuries when they do occur. *In 1979, the teen-aged Iowa motorcyclist comprised 40% of the total fatal casualties. In actual numbers, thirty-four teen-agers out of eighty-four recorded fatalities succumbed.*

For the teen-aged rider, we need to make a definite law that he or she use properly fitted, Department of Transportation approved protective headgear while riding a two-wheeled motorized vehicle. Implementation of this simple technique needs to be taught not just for this group but for all motorcycle and moped drivers. These bleak statistics indicate that mandatory head protection usage requires immediate implementation in order to reduce or halt death and disability due to severe head injury in this age group especially and ideally for all Iowa motorcyclists.

Wearing protective headgear while operating these popular machines in a proper and safe manner within the accepted speed limit will do much to reduce the incidence and severity of these devastating injuries. In this day of concern for our resources, energy depletion, and cost effectiveness, what better investment than the PREVENTION of fatality and serious injury among our teen-aged motorcycle and moped riders than by head protection legislation and education as to the benefits of head protection.

#### CONCLUSION

Iowa cyclists have proven that mandatory head protection reduces fatality and serious injury involving this part of the body. We need to promote this information about the value of head protection for all cyclists by public education programs and appropriate legislation for mandatory head protection and school safety

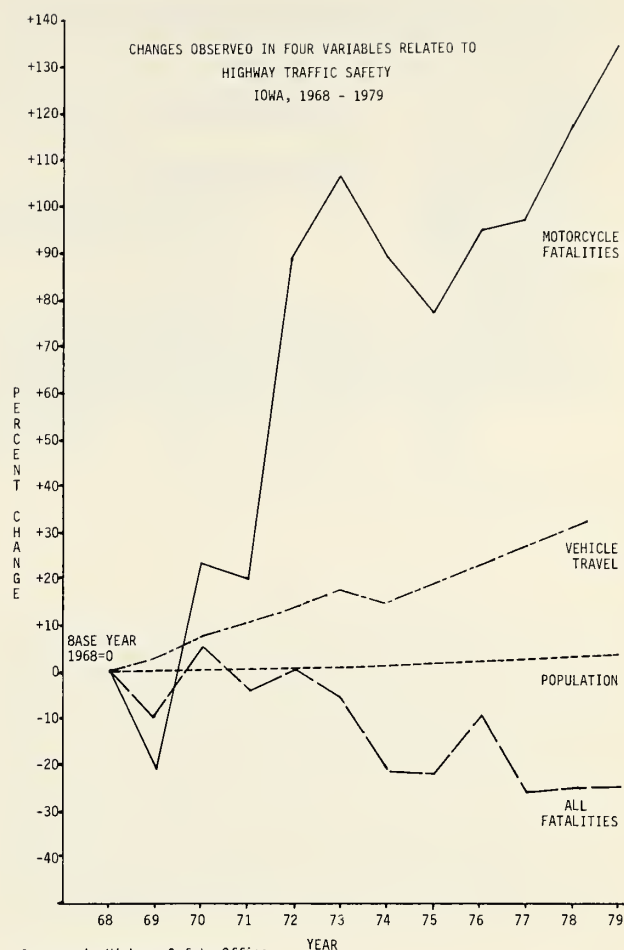






Governor's Highway Safety Office

education courses for the teen-age cyclist. In this fashion, the sharp increase in head injury and fatality rate among motorcyclists can be



Governor's Highway Safety Office  
Joyce Emery, Program Evaluator

curtailed from 66.2 percent in 1979 to the lower 23.5 percent in 1975 while mandatory head protection was in effect.

## PLEA FOR ANECDOTES

Elsie White Moore is an 82-year-old Des Moines resident. She is industrious, she is creative, and she has a desire to be independent of government support.

Mrs. Moore is a writer. She has written several chapters for a book related to medicine

which she hopes to see published. These chapters contain recollections of the late Dr. Channing Smith. Dr. Smith was the father of Dr. Elmer Smith, who died recently.

Mrs. Moore is making a request of Iowa physicians: Please send her any medical vignettes or anecdotes you regard of interest to lay readers. Mrs. Moore will use them if possible to expand her book. Any contributions should be forwarded to IMS headquarters marked to the attention of Mrs. Moore.



## COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### A MATTER OF PREFERENCE

I am asked many times about playing golf. I sort of enjoy the look of surprise on my questioner's face when I answer that I have never played the game: Contrary to popular belief, all physicians do not play golf. Some prefer wood-working; others enjoy gardening; some get involved in sedentary hobbies. My free time is spent puttering (no pun intended toward golfers) about my home, working on the lawn and

### IS HMO THE WAY TO GO?

Sometimes all the talk and writing about alternate delivery systems, HMO's and IPA's reminds me of the 6 blind men of Indostan and the elephant. The conclusion of the poem went like this:

*And so these men of Indostan  
Disputed loud and long  
Each in his own opinion  
Exceeding stiff and strong  
Though each was partly in the right  
And all were in the wrong.*

There is nothing new about pre-paid medical care, and there is nothing that is inherently wrong or evil with it, either. It is not, however, the answer to all our prayers for quality, inexpensive, personal medical care. There are facets of HMO medicine that should be considered before swallowing the package whole.

tending a rose garden. There is much to be done in the spring and summer to keep the house and landscape trim and neat. The work provides physical exercise and self satisfaction.

Involvement with growing plants tends to correlate with my professional life as a pediatrician. I enjoy the phenomenon of growth. It is satisfying to watch development and deal with deviations from the normal. The developing child is like the stem of a rose bush. Along the growing stem are frequent thorns but at maturity there comes a beautiful blossom, and the thorns are easily forgotten. So it is with the difficult phases of child rearing. Ultimately, however, they reach maturity and the trials and tribulations of infancy and childhood change to rewards as we see a mature adult emerge, one for whom we have pride and love.

A dear friend once suggested I slow my pace and stop to smell the flowers now and then. That was good advice, for too often we race through life oblivious to our beautiful surroundings. Be it flowers, or friends, there are wonderful things around us. In any of our endeavors we may have satisfaction, exercise and reward. I enjoy the delightful aroma of the roses — never did smell a golf ball though. — M.E.A.

Those patients who choose HMO's should be prepared to give up their free choice of physician and hospital. True, this may not be necessary, but it well could be. This is an important facet of our present medical system and shouldn't be sacrificed lightly. Also, those physicians who participate may have to forego free choice of patients, strange as it may sound.

Physicians in an HMO should be prepared to underwrite, or subsidize the program for the first 3 or 4 years of operation. Physicians *may* also have to sacrifice their usual referral patterns, and their usual hospitalization patterns. Please note that I say *may* in these instances. The type of HMO plan that is chosen determines some of the limitations that will have to be tolerated. It is for certain that the more freedom the HMO allows, the less the savings will be.

HMO's cover only a small segment of the people in a community. The poor, the elderly, and the unemployed are for the most part excluded. These people will need health care

*(Please turn to page 260)*



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coverage outside the HMO, and naturally their needs will be greater, more expensive, and require more hospital care. HMO's eschew covering these segments. They make for bad figures on the health care scorecard which tallies the number of hospital days per 1000 people covered. It is true that some federally-approved HMO's are allowed to make special contracts with Medicare intermediaries to cover the Medicare population they serve. But these HMO's are then eligible for federal grants to help defray their costs which sweetens the pot considerably when compared with what private carriers have to charge to cover the cost of insuring the elderly. There is also the matter of "outlet" beds — the SNF & ICF beds which must be available to insure complete care at reasonable costs. HMO's must be able to assure that their clients have this resource available and so far this has not been done.

We then have the problem of quality assurance and peer review. Yes, I know that peer review is built in as part of the HMO. But the peer review is interested only in the financial peer review. Is Dr. A more expensive than Dr. B in this plan? But what about the quality of care in the HMO? What methods will be used to determine the possible harmful effects of underutilization caused by inappropriate frugality?

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## LETTER TO EDITOR

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*Dear Sirs:*

I would like to compliment Drs. Schilling and Kasik on their excellent review of intermittent positive pressure breathing in the March IMS Journal. Their outline of the past abuses and alleged benefits of such therapy certainly is appropriate. However, I am concerned they may be "throwing the baby out with the wash" in that their indictment against the routine use of IPPB implies that it has no place in the treatment of any pulmonary disease or pulmonary process. This is contrary to the statement by the Respiratory Care Committee of the American Thoracic Society and is contrary also to other publications over the past eight years which indicate specific types of pulmonary disease where intermittent positive pressure breathing appears to be an effective adjunct in the treatment of the patient with respiratory

The private sector health system is constrained by second opinion requirements, PSRO's and HSA's. These agencies through use of CON and bed restrictions put a lid on private sector health care expansion. Not so with an HMO. The rules of CON and hospital bed expansion do not apply to HMO's by some strange reasoning. This seems like unfair sheltering of a system that ought to be competitive without handicapping the other systems.

The question of conflict of interest has been raised in fee-for-service HMO's, because in some HMO's it is a practice for physicians to be promised an annual bonus based on achieving savings in medical care costs greater than originally planned. Could this be construed as fee splitting? Is the economic incentive to give as little care as possible to save money a conflict of interest or compromise of character?

As you can see, there are important areas to be considered when evaluating an HMO. It is possible to buy cheap and pay dearly if too much free choice is sacrificed for economic reasons. All that glitters is not gold is a truism to be heeded when considering an HMO. I think the philosopher's advice, "Don't sell your virtue for a mess of pottage" is particularly apt in this situation. What do you think? — *Dennis J. Walter, M.D., Member, Scientific Editorial Panel*

failure. To make the statement that IPPB has no documented value is somewhat of an oversimplification of the problem of evaluation of any clinical therapeutic modality these days. The American Thoracic Society statement suggests that IPPB may be of benefit in the acute management of certain patients with acute or chronic respiratory failure: 1) to provide large inspiratory volumes in therapy pulmonary atelectasis; 2) to improve delivery of medications; 3) to improve coughing and expectoration; 4) to decrease pACO<sub>2</sub>; 5) and in special situations — a) acute pulmonary edema, b) weak patients, c) kyphoscoliosis, d) sputum induction, e) to deliver drugs. Therefore, I would like to ask the authors to consider temporizing their statement to say that IPPB as a routine therapeutic modality should be discouraged but that it may be helpful as a therapeutic adjunct in specific patients with severe respiratory embarrassment. — *Randall R. Hanson, M.D., Pulmonary Disease, Iowa Methodist Medical Center, Des Moines*



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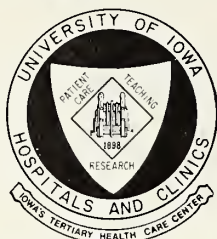


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# DRUG THERAPY REVIEW

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## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

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### RATIONAL USE OF TOPICAL ANTIBIOTICS

REYNOLD SPECTOR, M.D., Editor

EDITOR'S NOTE: *There is a widespread belief that the use of topical gentamicin (except in very rare circumstances) is imprudent. In the following article, Dr. Pesanti discusses the reasons for not using gentamicin topically.*

*"... when he saw the arrow wound, he sucked it clean of blood, then sprinkled it with balm, a medicine that Kheiron gave his father."<sup>1</sup>*

Antibiotics have been applied directly to infected sites since they have been available, and topical antibiotics has been practiced unknowingly for centuries. The ancient Egyptians dressed inflamed wounds with a mixture of grease and honey, a strongly antibacterial combination, although to our tastes somewhat objectionable. The "balm" used during the siege of Troy was probably similarly active.<sup>2</sup> Recently, with better definition of active agents, especially those produced by mold fermentations, several antibacterial substances have been incorporated into a large variety of lipoid ointments, soothing creams, and clear solutions. That antimicrobial agents possess the ability to inhibit or kill bacteria is clear; however, with only a few exceptions, evidence

that they exert a clinically beneficial action when applied locally to infected sites is less clear. There is evidence that the local application of either gentamicin or polymyxin-neomycin drops accelerate resolution of acute purulent conjunctivitis.<sup>3</sup> It also appears that topical antibiotics aid in healing of external otitis media.<sup>4</sup> And, there is little doubt that the application of effective topical agents, such as silver nitrate, silver sulfadiazine, or gentamicin have dramatically improved the outlook for patients with extensive burns.<sup>5</sup>

There is no firm documentation of the clinical worth of topically applied antibiotics in most other clinical situations. That the application of specific antimicrobials is superior to the use of saline or acetic acid soaks for open infected wounds, such as bedsores, has not been established. Nor has it been proven that topical antibiotics, such as neomycin, polymyxin, or gentamicin, significantly alter the rates of urinary tract infections in catheterized patients or intravenous catheter-induced wound sepsis. For the latter 2 situations as adjuncts to scrupulous attention to hygiene, it may be preferable to rely on antiseptics such as povidone-iodine. Such iodinated compounds are preferable because of their broader spectrum, and because sensitive organisms do not develop resistance.

Although there are few published studies firmly documenting the efficacy of topically applied antibiotics except as noted here, there are ample data which document the hazards associated with the wide use of those drugs. Except for allergic reactions, serious adverse effects in the individual patient are unusual and are primarily seen in patients with extensive burns. Of more concern is the risk of acquisition and transmission of antibiotic resistance by bacteria. Certainly, there are few conditions which equal an infected wound in the numbers of organisms exposed to the atmosphere. Infected open skin wounds typically contain multiple species and strains of organisms, many of which may be present in large numbers. Application of topical antibiotics results in selective pressure which encourages the overgrowth of organisms resistant to the agents in use, and also fosters transmission of antibiotic-resistance carrying plasmids from resistant species of unrelated, sensitive species. Because of the obvious utility of certain antibiotics (e.g., gentamicin) in treatment of sepsis in the seriously ill patient, acquisition of resist-

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This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.



ance to these agents and the subsequent spread of resistant organisms seriously compromises the physician's ability to deal with these serious infections when they arise. It is obvious, then, that the use of certain topical agents (e.g., gentamicin) should be very limited in hospitals.

But, the matter is not so simple. The information transferred by plasmids (in gram negative organisms) or episomes (in staphylococci) often confers resistance to agents other than that which initially produced the selective pressure. In one of the most striking reports<sup>6</sup> of this phenomenon, a nosocomial outbreak of infection due to multiple-antibiotic resistant *Salmonella typhimurium* occurred in a burn unit. Only silver nitrate was used in the burn unit; the organisms were resistant not only to silver nitrate, but also to ampicillin and chloramphenicol, a situation which had not been reported to occur in nature. Similar broad-spectrum increases in antibiotic resistance have occurred following use of silver sulphadiazine in a burn unit<sup>7</sup> and gentamicin on a dermatology ward.<sup>8</sup>

In order to limit the emergence of resistant organisms to antibiotics which are useful for systemic administration, it is therefore important that topical use of all antibiotics be limited to situations in which their use is felt to be essential. In addition, it is wise to choose anti-

biotics which do not sensitize a patient to an antibiotic which he or she may require systemically and which does not increase the hospital's burden of multiple resistant strains. For these latter reasons, it is suggested that, when a topical antibiotic preparation must be employed, the combination of bacitracin-polymyxin B with or without neomycin be used as the agent of first choice. None of the agents in these preparations are broadly used for systemic therapy; in fact, bacitracin and neomycin are not used at all. As an added safety factor, polymyxin B is unique among available antibiotics — sensitive strains cannot develop resistance to it.

But, before any topical antibiotic is used, ask yourself "Does it really help?" Edward Pesanti, M.D., Assistant Professor, Department of Internal Medicine

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## April 1980 Morbidity Report

Disease	April 1980 Total	1980 to Date	1979 to Date	Most April Cases Reported From These Counties
Amebiasis	3	3	39	Baane, Polk
Brucellosis	0	1	2	—
Chickenpox	1179	5627	5253	Scattered
Cytomegalavirus	3	4	2	Lee, Woodbury
Eaton's Agent infection	4	7	24	Scattered
Encephalitis, viral	0	6	5	—
Erythema infectiosum	99	173	483	Bentley, Lee, Linn, Marian
Gastroenteritis (GIV)	1451	11300	8554	Scattered
Giardiasis	1	6	12	Black Hawk
Hepatitis, A	11	48	60	Scott, Polk
Hepatitis, B	1	26	29	Davis
type unspecified	6	28	17	Polk
Herpes simplex	5	30	26	Jones
Herpes zoster	0	0	0	—
Histoplasmosis	1	9	0	Johnson
Infectious mononucleosis	28	160	5	Palk, Story
Influenza, lab confirmed	24	100	34	Palk
Influenza-like illness (URI)	4406	44137	36042	Clinton, Linn, Pala Alto
Meningitis				
aseptic	1	8	12	Webster
bacterial	6	40	43	Scattered
meningococcal	2	5	5	Palk
Mumps	9	24	177	Lee, Scott
Pertussis	0	0	1	—
Rabies in animals	35	109	58	Shelby, Marshall, Jasper
Rheumatic fever	0	0	8	—
Rubella (German measles)	0	3	43	—
Rubeola (measles)	0	0	14	—
Solomonello	6	35	45	Linn
Shigello	1	21	24	Palk
Tuberculosis				
total ill	13	31	30	Palk, Pocahontas
bact. pas.	10	24	28	Polk, Pacahantas
Venereal diseases:				
Gonorrhea	377	1507	1933	Polk, Linn, Scott, Black Hawk
P. & S. Syphilis	1	4	18	Pattawattamie

**Laboratory Virus Diagnosis Without Specified Clinical Syndrome:** Adenovirus — 1, Decatur, 1, Hardin, 1, Polk, 1, Scott, 1, Wopello; Guillian Barré — 1, Clinton, 1, Jefferson; Scarlet Fever — 3, Delaware, 1, Dubuque, 1, Lousia, 1, Pala Alto, 9, Polk, 1, Tama; Blastomycosis — 1, Emmet, 1, Palk; Kawasaki — 1, Scott; Campylobacter — 1, Delaware, 1, Palk.

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- b.i.d. dosage simplifies therapy
- scored tablet for dosage flexibility

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**CONTRAINDICATIONS** Use in Newborn or Premature Infants: This drug should not be used in newborn or premature infants.

Use in Nursing Mothers: Because of the higher risk of antihistamines for infants generally and for newborns and premature infants in particular, antihistamine therapy is contraindicated in nursing mothers.

Use in Lower Respiratory Disease: Antihistamines should NOT be used to treat lower respiratory tract symptoms including asthma.

Antihistamines are also contraindicated in the following conditions: hypersensitivity to azatadine maleate and other antihistamines of similar chemical structure, monoamine oxidase inhibitor therapy (See DRUG INTERACTIONS Section).

**WARNINGS** Antihistamines should be used with considerable caution in patients with: narrow angle glaucoma; stenosing peptic ulcer; pyloroduodenal obstruction; symptomatic prostatic hypertrophy; bladder neck obstruction.

Use in Children: In infants and children especially, antihistamines in overdosage may cause hallucinations, convulsions, or death.

As in adults, antihistamines may diminish mental alertness in children. In the young child, particularly, they may produce excitation.

OPTIMINE TABLETS ARE NOT INTENDED FOR USE IN CHILDREN UNDER 12 YEARS OF AGE.

Use in Pregnancy: Experience with this drug in pregnant women is inadequate to determine whether there exists a potential for harm to the developing fetus.

Use with CNS Depressants: Azatadine maleate has additive effects with alcohol and other CNS depressants (hypnotics, sedatives, tranquilizers, etc.).

Use in Activities Requiring Mental Alertness: Patients should be warned about engaging in activities requiring mental alertness, such as driving a car or operating appliances, machinery, etc.

Use in the Elderly (approximately 60 years or older): Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients.

**PRECAUTIONS** Azatadine maleate has an atropine-like action and, therefore, should be used with caution in patients with: a history of bronchial asthma; increased intraocular pressure, hyperthyroidism; cardiovascular disease; hypertension.

**DRUG INTERACTIONS** MAO inhibitors prolong and intensify the anticholinergic (drying) effects of antihistamines.

**ADVERSE REACTIONS** The most frequent adverse reactions are underlined:

General: Urticaria, drug rash, anaphylactic shock, photosensitivity, excessive perspiration, chills, dryness of mouth, nose, and throat.

Cardiovascular System: Hypotension, headache, palpitations, tachycardia, extrasystoles.

Hematologic System: Hemolytic anemia, thrombocytopenia, agranulocytosis.

Nervous System: Sedation, sleepiness, dizziness, disturbed coordination, fatigue, confusion, restlessness, excitation, nervousness, tremor, irritability, insomnia, euphoria, paresthesias, blurred vision, diplopia, vertigo, tinnitus, acute labyrinthitis, hysteria, neuritis, convulsions.

Gastrointestinal System: Epigastric distress, anorexia, nausea, vomiting, diarrhea, constipation.

Genitourinary System: Urinary frequency, difficult urination, urinary retention, early menses.

Respiratory System: Thickening of bronchial secretions, tightness of chest and wheezing, nasal stuffiness.

**OVERDOSAGE** Antihistamine overdosage reactions may vary from central nervous system depression to stimulation. Stimulation is particularly likely in children. Atropine-like signs and symptoms (dry mouth, fixed, dilated pupils; flushing; and gastrointestinal symptoms) may also occur.

If vomiting has not occurred spontaneously, the patient should be induced to vomit. This is best done by having him drink a glass of water or milk after which he should be made to gag. Precautions against aspiration must be taken, especially in infants and children.

If vomiting is unsuccessful, gastric lavage is indicated within three hours after ingestion and even later if large amounts of milk or cream were given beforehand. Isotonic and ½ isotonic saline is the lavage solution of choice.

Saline cathartics, such as milk of magnesia, draw water into the bowel by osmosis and therefore are valuable for their action in rapid dilution of bowel content.

Stimulants should not be used.

Vasopressors may be used to treat hypotension.

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# STATE DEPARTMENT/ PUBLIC HEALTH

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## REGULATION OF HOSPITALS AND NURSING HOMES

The Division of Health Facilities of the Iowa State Department of Health has regulation of health care facilities as its primary mission.

Legal authority for the Department to license health care facilities comes from the *Code of Iowa*, and from those Rules which are promulgated under authority of the law.

The budget of the Division comes from state appropriations and from federal funds received under contract to enforce Medicare and Medicaid regulations.

The Department issues the following licenses each year (The numbers are the most recent totals):

Hospitals — 138  
Nursing Homes — 417  
Residential Facilities — 288  
Total — 843

Before construction, a hospital or nursing home is required to have its plans approved by the State Health Department and the State Fire Marshal. After receiving its initial license, a health facility is relicensed annually.

The basis for issuing licenses is described in the following paragraphs.

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This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

## NURSING HOME INSPECTIONS

Each of the 417 nursing homes in Iowa is inspected annually for compliance with state and federal regulations. Follow-up visits are made to verify that violations have been corrected. Nursing home inspections are always made by a registered nurse. Assistance is provided from other disciplines as needed.

Iowa has a fining procedure for serious nursing home violations. In 1979, a total of \$8,300 was assessed in fines for violations of Iowa nursing home rules.

The State Health Department also investigates complaints against nursing homes. In 1979, 492 complaints were investigated, and 181 were substantiated, 65 partially substantiated, and 246 were unsubstantiated.

Complaint investigations require the full-time services of 4 registered nurses, and other support personnel (e.g., dietitians) as needed.

Complaint investigations often lead to fines against nursing homes.

## HOSPITAL INSPECTIONS

Eighty-six hospitals in Iowa are accredited by JCAH or AOA. The Health Department accepts the accreditation report as evidence of compliance with state hospital rules and no routine inspections are made. Fifty-two hospitals are not accredited and are inspected by the Department for Medicare-Medicaid compliance; this is done under a contract with HEW. The Department also accepts the Medicare inspection as evidence of compliance with state rules, and no separate state inspection is done.

Complaints against all hospitals are investigated, but this is a minor activity as few hospital complaints are received.

Hospital inspections are carried out with the following disciplines functioning as a team: administrator (team leader), registered nurse, registered dietitian, deputy fire marshal, health physicist, laboratory technologist.

Medicare hospital inspection reports and JCAH or AOA reports are considered public documents when they are accepted by the Health Department.

## RESIDENTIAL HOME INSPECTIONS

Each of the 288 residential homes is inspected annually. The inspection is done by those disciplines appropriate in each case.



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## QUESTIONS/ANSWERS

(Continued from page 242)

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**Summer activities will result in minor injuries. What are general recommendations for tetanus prophylaxis in wound management?**

A review of tetanus in the United States in recent years fails to reveal documented cases occurring in individuals with adequate primary immunization. Therefore, no booster dose is needed for clean, minor wounds in a fully immunized child or older person unless more than 10 years have elapsed since the last dose. For contaminated wounds, a booster dose should be given if more than five years have elapsed since the last dose. For persons whose immunizations are still incomplete following wound management, the remainder of the recommended series should be given.

Td (adult) is considered the agent of choice for immunization over 6 years of age as it is associated with a decrease in local and systemic reactions compared to use of the larger amounts of diphtheria toxoid contained in the TD (pediatric) vaccine.

Tetanus immune globulin should be administered for contaminated wounds in patients who have had only one (1) immunization or no history of tetanus immunization.

**What is the best approach to handling animal bites?**

Thoroughly clean wound with soap and water immediately. This is perhaps the most effective rabies preventive. Some authorities encourage administration of prophylactic antibiotics unless there are specific contraindications. Do not suture unless there is some compelling reason to do so, such as fear of cosmetic damage. If offending animal is a dog or cat, observe for 10 days.

Most animals shedding rabies virus die in 3 to 5 days. If a wild animal is involved, euthanize it and submit the head to the Veterinary Diagnostic Laboratory, Ames or the University Hygienic Laboratory, Iowa City for testing. In assessing the need for antirabies treatment, obtain a thorough background history of the incident *before* recommending specific therapy. If in doubt, call the State Health Department for assistance (telephone 515/281-5643 or after hours 515/281-3561).

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## ABOUT IOWA PHYSICIANS

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**Dr. Terry Sutton**, Fairfield, has been named Jefferson County medical examiner. . . . **Dr. Frederick C. Blodi**, professor and head, Department of Ophthalmology, U. of I. College of Medicine, was named an honorary member of the Eye Institute of Barraquer at recent international ophthalmology conference in Bogota, Colombia. Dr. Blodi addressed the conference on "The Diagnosis and Treatment of Orbital Tumors." . . . **Dr. Robert R. Shreck**, Des Moines, has been appointed medical director of the Community Blood Bank of Central Iowa. . . . At a recent meeting of the Waterloo Area Ostomy Chapter, **Dr. Robert Downie**, Waterloo, spoke on "Intestinal Flu and the Oseomate." . . . **Dr. Jeffrey Knerl** will join the Estherville Medical Center in August. Dr. Knerl received the M.D. degree at Creighton University School of Medicine. He is currently completing a family practice residency. . . . **Dr. Richard M. Caplan**, associate dean for Continuing Medical Education, U. of I. College of Medicine, is new president-elect of the Society of Medical College Directors of Continuing Medical Education.

**Dr. Ralph Rogers**, Ames, was guest speaker at a recent meeting of the Wright County Medical Society. . . . **Dr. Richard M. Schieken**, Iowa City, American College of Cardiology Governor for Iowa, reports the following Iowa physicians have achieved the ACC's membership rank of Fellow — **Dr. Saadi Albagh-dadi**, Clinton; **Dr. John T. Baller**, Sioux City; **Dr. Charles R. Cagin**, Des Moines; **Dr. Basaviah Chandramouli**, Des Moines; **Dr. Gregoria Kazenelson**, Waterloo; and **Dr. Randolph J. Lewis**, Dubuque. . . . **Dr. Ross C. King**, retired Clinton physician, has been named the first recipient of the Kirk Strong Award. The award was created in 1979 by the Governor's

Commission of the Iowa Department of Substance Abuse to honor the late Dr. Kirk Strong for his service, dedication and concern for substance abusers in Iowa. Dr. King has been involved in Alcoholics Anonymous for 28 years and was instrumental in the purchase of the first halfway house for men, later named "King House" in his honor. . . . **Dr. K. T. Song** is new president of medical staff of North Iowa Medical Center. Other officers are — **Dr. Warren V. Wulfekuhler**, president-elect; and **Dr. John K. MacGregor**, secretary. All are Mason City physicians. . . . **Dr. William Bonney**, associate professor, Department of Urology, U. of I. College of Medicine, and Chief of Urology, Veterans Administration Medical Center, Iowa City is editor of the American Urological Association's educational monograph series. The first monograph entitled, "AUA Courses in Urology, Volume 1" was published in October, 1979, Dr. Bonney was also a recent guest speaker at the University of Southern California in Los Angeles. His topics were "Local Elimination of Cancer of the Prostate by

Cryosurgery" and "Rat Model of Prostatic Cancer."

At recent meeting of the Henry County Medical Society, **Dr. Jayant Belsare**, was elected president; **Dr. Phillip Couchman**, vice president; and **Dr. Steve Readinger**, secretary. All are Mt. Pleasant physicians. . . . **Dr. Martin Wiesenfeld**, Cedar Rapids, was guest speaker at recent meeting of the Linn County Unit of the American Cancer Society. . . . **Dr. Satyanarayana Kantamneni** recently began the practice of psychiatry in Keokuk. A native of India, Dr. Kantamneni is a graduate of the Cuntar Medical College, Cuntar, India; served a rotating internship at Illinois Masonic Medical Center in Chicago, and served his residency in psychiatry at the Mental Health Institute in Independence. . . . **Dr. Wendell Downing**, Des Moines, has been named 1980 Crusade Chairman for the Iowa Division of the American Cancer Society. Dr. Downing also serves

## IOWA FARMLAND INVESTMENTS

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Doane Agricultural Service, Inc. is now offering a new program specifically structured for the absentee, investor-type buyer of farmland. Doane's many years of service to the agricultural industry as a broker and manager of agricultural properties is being offered to qualified persons who wish assistance in locating and purchasing farms, either individually or as part of a group. For those who desire it, Doane's extensive farm management services are also available.

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as Chairman of the Polk County Unit. He has been a member of the Iowa Division Board of Directors since 1973, and a member of the Executive Committee of the Iowa Division since 1974. . . . **Dr. John N. Allhiser** will join the Muscatine Health Center in September. Dr. Allhiser received the M.D. degree at the University of Wisconsin Medical College and is completing his family practice residency in Cedar Rapids. . . . **Mrs. Marilyn Kollmorgen**, wife of **Dr. Robert Kollmorgen**, Des Moines, has been named Urbandale's Citizen of the Year by the Urbandale Chamber of Commerce. Mrs. Kollmorgen has been active in school, church and civic projects. . . . **Dr. Paul J. Leehey**, Independence physician for more than 50 years, recently was honored at an open house. Dr. Leehey is Buchanan County's oldest practicing physician. . . . **Dr. Charles Caughlan**, Mason City, was guest speaker at recent meeting of the Wright County Medical Society. Dr. Caughlan discussed the relatively-rare diabetic complication of hyperosmolar non-ketotic diabetic coma.

**Dr. Wendell Downing**, Des Moines, has been named 1980 Crusade Chairman for the Iowa Division of the American Cancer Society. Dr. Downing is also chairman of the ACS Polk County unit. . . . At the annual meeting of the Iowa Clinical Surgical Society, the following officers were elected — **Dr. Philip Monnig**, Sioux City, president; **Dr. Vernon H. Plager**, Waterloo, president-elect; and **Dr. Leonard H. Boggs**, Sioux City, secretary-treasurer. . . . **Dr. Joseph Dvorak**, Lake Okoboji, has retired. Dr. Dvorak began medical practice in Sioux City in 1929. He moved to Lake Okoboji in 1971 and has been associated with the Spirit Lake Medical Clinic. A native of Fairfax, Iowa, he received the M.D. degree and completed his ophthalmology residency at U. of I. College of Medicine. Dr. Dvorak is a diplomate of the Pan American Academy of Medicine and Surgery; former president of the Iowa Eye Association; and past president of medical staff at St. Joseph Mercy Hospital in Sioux City. . . . **Dr. Gregorio Kazenelson**, Waterloo, has been named a fellow of the American College of Cardiology.



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# IOWA MEDICAL ASSISTANTS

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## AN OFFICE MANUAL?

Organization is a necessity in any office. Each job lends itself to some type of organization. Various systems can be devised to insure the workload is properly divided, and assignments are completed in a timely manner. A well conceived and complete office manual is one sign of organization. It can be used time and time again (1) in training the new assistant, (2) for reference in preparation of seldom used documents, (3) to check information in ordering supplies, etc.

An interesting situation followed the resignation of the typist whose husband was graduated from the local college. His new teaching position was taking him to a distant city. For 2 years his typist wife had been very efficient and productive. As she organized her future, she realized she would be in a smaller town, and if lucky she would be employed in another doctor's office, but there would probably not be six other desks around her. She would probably be working in a one or two girl office.

In the last 2 months of her job, she made a single request. "In the short time I have left, may I update the office manual?" she asked. Why the sudden interest in updating the office manual? This employee was organizing her future. She could see herself as only a typist. She

was "plugged in" during her entire time of employment, and knew nothing of the other six desks in the office. Oh yes, she knew the mail was sorted, opened and processed; receipts were logged every day, balancing done, and posting to the ledgers. The processing of the hospital reports was an everyday occurrence. Yet, many questions cluttered her mind. How is all this work done? By retyping the manual, she was given the opportunity to learn much more about every aspect of the office. In her immediate future, she knew this would be valuable.

Also, with typing duties, how did she feel she would have time to redo the manual? The old adage, "If there's a will, there's a way," proved to be true. Before her termination date, she had completely redone the manual. Since art was her avocation, all of the pages included sketches of the equipment to which she referred.

There was the complete explanation of all procedures, including procedures which seemed automatic to the long time employees. Mentally picture the route of a chart in your office — from the time it leaves the filing cabinet until it returns to the files. Is there double effort in filing and re-filing the same chart? Included in her route was the preparation of the chart prior to the patient's visit, the positioning of it on the counter (indicating whether the patient was in the waiting room, or whether he had not yet arrived). The chart then followed the patient to the examining room, then to the doctor's dictation room and on to the typist's desk for transcription. Many times this ends the route of the chart, and it is filed. Does the insurance clerk have to get up and go to the file to find this same chart to complete her insurance claim? How much time could be saved in your office by organizing just this one procedure?

This employee left her trademark behind — and what a trademark it was. The original "Trip of the Chart around the Office," together with her drawings, still remains in the current manual of this office to remind everyone of an employee who cared enough to show it.



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# JOURNAL OF THE IOWA MEDICAL SOCIETY

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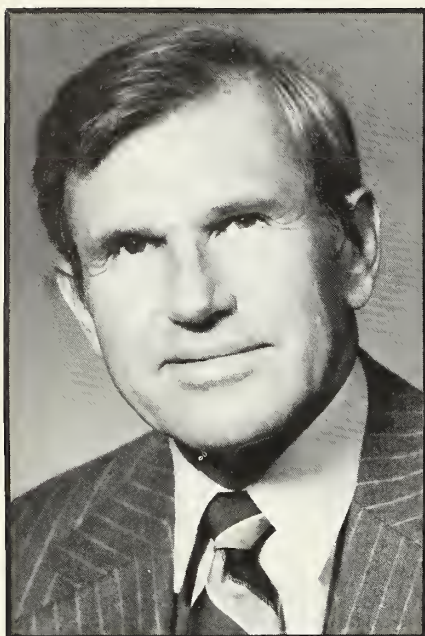
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New IMS program — Assistance Program for Troubled Physicians (APTP) — is now in operation

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**ABOUT THE COVER** — Sue O'Dea, R.N., is assistant director of nursing at Iowa Lutheran Hospital in Des Moines. She is also a photographer, as the cover picture will attest. She won first place in the patient care category of a recent photography competition among Iowa Lutheran employees. Her photo is aptly titled "Half-Nelson" in honor of the new baby born to Greg and Charlene Nelson of West Des Moines.



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## PRESIDENT'S PRIVILEGE

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**T**HE IOWA primary election was last month. The race for the Republican senatorial nomination between Chuck Grassley and Tom Stoner produced as much primary campaign activity as we've probably ever seen in Iowa. It brought out more voters than most experts predicted.

The other bids for top spots on the November ballot created interest as well. Of the three primary races for the U. S. House of Representatives, there was obvious medical interest in the Fourth District where Dr. Don Young was successful in his first try for public office. He received about 62% of the Republican vote. Dr. Young is a Des Moines radiologist and served ably as IMS Legislative Committee Chairman for a number of years. He must now challenge Neal Smith in the general election.

Dr. Young is the first Iowa physician to be a Congressional finalist for better than 20 years. There are only three physicians serving in the U. S. House of Representatives. (Carter of Kentucky, MacDonald of Georgia and Paul of Texas) at this time. The candidacy of Don Young deserves the interest and support of IMS members statewide.

While few physicians are able to run for office, we, and our spouses, should be active politically. There are various ways to be involved in the election process. One is through the Iowa Medical Political Action Committee. Elsewhere in this issue, the IMPAC chairman describes the efforts of that body. Please read his comments.

Come November, we'll elect candidates from the courthouse to the Statehouse to the White House. These elections will impact on our professional and personal lives. I urge you in the coming months to be active in behalf of the candidates of your choice.

*William R. Bliss, M.D.*

**William R. Bliss, M.D.**



# Summary of 1980 House of Delegates

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*Highlighted in the following pages are the actions of the 1980 IMS House of Delegates. New geographic boundaries were established for IMS councilor districts. Additionally, the House reaffirmed various matters relating to the physician's assistants. A favorable membership status was reported with Iowa Medical Society dues retained at their 1980 level.*

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The 1980 Annual Meeting of the Iowa Medical Society House of Delegates was May 3 and 4 in Des Moines. Sessions of the House were chaired each day by Lynn D. Caraway, M.D., and William C. Rosenfeld, M.D., speaker and vice speaker, respectively. Open hearings were conducted by three reference committees on May 3. The Delegates' Banquet occurred May 3 and was chaired by Society President Paul M. Seebohm, M.D. An update on federal legislation was presented by U. S. Congressman James Leach, who represents Iowa's first congressional district.

Winner of the 1980 Iowa Medical Society Merit Award was A. J. Havlik, M.D., Tama. The 1980 Washington Freeman Peck Award was presented to the Kinney Lindstrom Foundation in Mason City. The John F. Sanford Award was presented to William Recknor, Phoenix. The Ben T. Whitaker Interstate Postgraduate Teaching Award was presented to Marion E. Alberts, M.D., Des Moines, Scientific Editor, JOURNAL OF THE IOWA MEDICAL SOCIETY.

## MAY 3 SESSION

Registered for the May 3 session of the House were 136 delegates, 6 alternates and 10 ex officio members. Minutes of the April 22, 1979 session of the House of Delegates were approved as summarized in the July 1979 issue of the JOURNAL OF THE IOWA MEDICAL SOCIETY. Reports contained in the 1980 HANDBOOK FOR THE HOUSE OF DELEGATES were approved as published.

The following reports were made to the 1980 House of Delegates:

**Board of Trustees**, by Hormoz Rassekh, M.D., chairman. (Associated with this report was an audio-visual presentation on 1980 IMS activity. It stressed (1) the favorable membership status of the Society; (2) the existence of and need for capable leadership within the profession, and (3) the representation of the IMS with the state's various public and private health agencies.)

**Blue Shield**, by E. E. Linder, M.D., chairman, Board of Directors.

**Iowa Foundation for Medical Care**, by John Hess, Jr., M.D., IFMC president.

**Iowa Medical Society Foundation**, by John H. Kelley, M.D., member, Board of Directors.

**Necrology**, by John Tyrrell, M.D., chairman, Judicial Council.

**Nominating Committee**, by Lawrence O. Goodman, M.D., chairman.

**Committee on Articles of Incorporation and Bylaws**, by Kenneth J. Judiesch, M.D., chairman.

**Legislative Committee**, by Clarence H. Denser, Jr., M.D., chairman.





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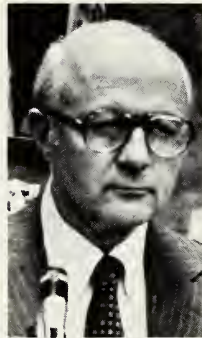
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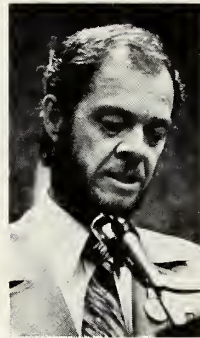
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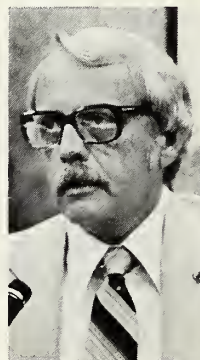
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## SUMMARY OF 1980 HOUSE OF DELEGATES

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Iowa Medical Political Action Committee (IMPAC), by Thomas E. Kiernan, M.D., chairman.

Medico-Legal Committee, by Warren V. Wulfekuhler, M.D., chairman.

A check for \$7,697.15 was presented by Maurice E. Kraushaar, M.D., IMS trustee, to the University of Iowa College of Medicine. The grant represents contributions to the AMA/ERF which have been designated for the U. of I. John W. Eckstein, M.D., dean, U. of I. College of Medicine, accepted the check.

Supplemental reports from the Subcommittee on Public Assistance, the Committee on Assistance Program for Troubled Physicians, Member Services Committee, and Sports Medicine Committee were contained in the delegates' packets but were not read.

Society President Paul M. Seebahm presented highlights from his year in office. These remarks were published in the June, 1980, issue of the JOURNAL OF THE IOWA MEDICAL SOCIETY.

Seventeen resolutions were formally introduced and referred to reference committees. Action taken on these resolutions is reported subsequently in this summary.

## The following physicians were elected to Life Membership in the Iowa Medical Society:

Adams: C. Larimer Bain, M.D., Corning  
Dubuque: Donald C. Canzett, M.D., and Danovan F. Ward, M.D., both from Dubuque  
Floyd: H. A. Talliver, M.D., Charles City  
Johns: Rafael J. Hennes, M.D., Oxford, and Richard L. Jenkins, M.D., Iowa City  
Janes: Earl H. DeShaw, M.D., Manticella  
Lee: George C. McGinnis, M.D., Fort Madison  
Linn: Robert T. Netolicky, M.D., Cedar Rapids  
Mantgamery: Fred A. Hansen, M.D., Red Oak  
Palk: Stanley Dusdieker, M.D., Olin A. Elliott, M.D., and Abraham Taubes, M.D., all of Des Moines  
Paweshiek: S. D. Parter, M.D., Grinnell  
Scott: Preston E. Gibson, M.D., Davenport and Hyman Hurevitz, M.D., Bettendorf  
Washington: Murry L. McCreedy, M.D., Washington  
Winnebago: Lester E. Larson, M.D., Decatur  
Waukegan: William M. Krigsten, M.D., Sioux City  
Stary: Kenneth C. Piercy, M.D., Ames

## The following physicians were elected to Associate Membership in the Iowa Medical Society:

Black Hawk: John E. Blumgren, M.D., Mesa, Arizona, Thomas P. Baard, M.D., Waterloo, William M. Cannan, M.D., Weaverville, North Carolina, and Bernard Diamond, M.D., Dabbs Ferry, New York  
Cerro Gordo: Walter N. Hansan, M.D., Edina, Minnesota, and Jay E. Haulahan, M.D., Mason City  
Chickasaw: Clayton W. Clark, M.D., Nashua  
Clinton: Charles C. Christiansen, M.D., Grand Mound  
Dubuque: Robert L. Barton, M.D., and Victor K. Nakashima, M.D., both from Dubuque

*(Continued on page 290)*

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## PICTURE HIGHLIGHTS 1980 HOUSE OF DELEGATES

These scenes are from the May 3/4 IMS House of Delegates held in Des Moines: (1) Paul Seebahm, M.D., Des Moines, left, hands presidential gavel to William Bliss, M.D., Ames. (2) 1980 IMS Merit Award winner A. J. Hovlik, M.D., Tama, and Mrs. Hovlik. (3) 1980 John Sanford winner William Recknar, Phoenix, center, is flanked by E. E. Linder, M.D., Ogden, left, and J. D. Ver Steeg, M.D., Des Moines. (4) Ben Whitaker Interstate Postgraduate Teaching Award winner Marian Alberts, M.D., Des Moines, and Mrs. Alberts. (5) Iowa and U. S. flags given the IMS by the Auxiliary are presented by Mrs. Max Olsen, Minden, left, and Mrs. James Bishop, Davenport. (6) (7) (8) 1980 House Reference Committee chairmen were, from left, Lyle Fuller, M.D., Garner; Charles Johns, M.D., Sioux City, and Charles Jans, M.D., Ames. (9) The IMS presidents and their ladies; retiring president Paul Seebahm, M.D., Iowa City, and his wife, left, and incoming president William Bliss, M.D., Ames, and his wife. (10) Dean John Eckstein, M.D., U. of I. College of Medicine, right, receives an AMA-ERF check from IMS trustee Maurice Kroushaar, M.D., Ft. Dodge. (11) E. E. Linder, M.D., Ogden, Blue Shield board chairman, left, introduces new Blue Cross/Blue Shield president, D. Eugene Sibery. (12) Newly-structured IMS board of trustees, seated from left, Harmaz Rassekh, M.D., Council Bluffs, chairman; William

Bliss, M.D., Ames, president; John Kelley, M.D., Des Moines, president-elect; standing from left, Maurice Kroushaar, M.D., Ft. Dodge, trustee and secretary/treasurer; Paul Seebahm, M.D., Iowa City, immediate past president; Emmett Mathiasen, M.D., Council Bluffs, vice president; and John Tyrrell, M.D., Manchester, trustee. (13) William Rasenfeld, M.D., Mason City, vice speaker of the House, comments on his recent volunteer service to Cambodian refugees. (14) Thomas Kiernan, M.D., Newton, retiring chairman of the IMPAC board. (15) Congressman James Leach, Davenport, was the banquet speaker. (16) New IMS life members, seated from left, R. Y. Netolicky, M.D., Cedar Rapids; E. H. DeShaw, M.D., Manticella, and W. M. Krigsten, M.D., Sioux City; standing from left, S. Dusdieker, M.D., Des Moines, R. J. Hennes, M.D., Oxford; G. C. McGinnis, M.D., Ft. Madison; D. F. Word, M.D., Dubuque, and K. C. Piercy, M.D., Ames. (17) Retiring Auxiliary president Mrs. R. A. Weyrauch addressed the House. (18) IMS councilors present for organizational meeting following House adjournment; seated from left, Dennis Walter, M.D., Des Moines; D. F. Raadwig, Jr., M.D., Spirit Lake; Daniel Youngblode, M.D., Sioux City; Warren Wulfekuhler, M.D., Mason City; standing from left, E. E. Linder, M.D., Ogden; Robert Melgaard, M.D., Dubuque; Kenneth Dolan, M.D., Iowa City; Sidney Smith, M.D., Oskaloosa; Robert Soutter, M.D., Mt. Vernon; Robert Kent, M.D., Burlington; Clarkson Kelly, M.D., Charles City; and Arthur Sciortino, M.D., Council Bluffs.

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## SUMMARY OF 1980 HOUSE OF DELEGATES

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Foyette: Arthur F. Grondinetti, M.D., Oelwein  
Floyd: W. P. Pelz, M.D., Charles City  
Jackson: Cloy K. Risser, M.D., Moquoketo  
Johnson: Roymond G. Bunge, M.D., William C. Keettel, M.D.,  
Clair M. Kos, M.D., and L. N. Spohnheimer, M.D., all of Iowa City  
Linn: John J. Keith, M.D., John Porke, M.D., James J. Redmond,  
M.D., and Robert A. Youngmon, M.D., all of Cedar Rapids  
Poge: Thomas E. Shonko, M.D., Clarindo  
Polk: Henry H. Corn, M.D., Robert H. Foss, M.D., Ralph E.  
Hines, M.D., Moynord A. Meservey, M.D., James A. Skultety,  
M.D., and Richard J. Steves, M.D., all of Des Moines, and Clore  
Trueblood, M.D., Indianola  
Pottawottomie-Mills: U. J. Collignon, M.D., Council Bluffs  
Scott: Charlotte Rosendorff, M.D., Davenport  
Story: John F. Bocon, M.D., and David Woll, M.D., both from  
Ames  
Wopello: W. E. Herrick, M.D., Ottumwa  
Webster: J. J. Weyer, Fort Dodge  
Woodbury: Donald B. Blume, M.D., Worthy C. Boden, M.D.,  
Sidney A. Cohen, M.D., and Edward H. Sibley, M.D., all of Sioux  
City, and Melvin R. Kelberg, M.D., Logan Hills, California

The speaker presented information on the reference committee hearings, the balloting procedures and the concluding session of the House.

### MAY 4 SESSION

Registered for the May 4 session of the House were 122 delegates and 9 ex officio members. The minutes of the May 3 session of the House were read and approved.

Dr. William Rosenfeld, Mason City, commented briefly on his 3-month tour of duty in Thailand under the *Iowa Shares* program.

Mrs. Marion Weyhrauch, immediate past president, Iowa Medical Society Auxiliary, reported on the work of this organization.

The following physicians were announced as having been elected or re-elected to the positions noted:

President-elect	John H. Kelley, M.D., Des Moines
Vice President	Emmett B. Mothiosen, M.D., Council Bluffs
Speaker of the House	Lynn D. Corowoy, M.D., Amona
Vice Speaker	William C. Rosenfeld, M.D., Moson City
Trustee (3-year term)	John E. Tyrrell, M.D., Manchester
AMA Delegates	
(2-year term)	Erling Lorson, Jr., M.D., Davenport
	John M. Rhodes, Sr., M.D., Pocahontas

### AMA Alternote Delegates

(2-year term)

Clorence H. Denser, Jr., M.D., Des Moines  
Robert D. Whinery, M.D., Iowa City

### Liaison Delegates

J. F. Bishop, M.D., Davenport  
J. D. Ver Steeg, M.D., Des Moines

### Councilors

Warren V. Wulfekuhler, M.D., Moson City (5)  
Robert T. Guthrie, M.D., Waterloo (6)  
Robert L. Kent, M.D., Burlington (1)  
Sidney A. Smith, M.D., Oskaloosa (7)  
Enfred E. Linder, M.D., Ogden (11)

Under the approved redistricting plan, the following new councilors have been appointed:

### Councilors

Kenneth D. Dolon, M.D., Iowa City (2)  
Robert A. Souter, M.D., Mt. Vernon (3),  
Robert T. Melgoord, M.D., Dubuque (4),  
John W. Olds, M.D., Des Moines (9)

Highlights and actions of the Reference Committee reports are summarized as follows:

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Reference Committee on Articles of Incorporation and Bylaws  
— Charles Jons, Chairman, Dorothy J. Gildea, John W. Olds, Gerhard T. Schmunk, and Stephen H. Wolken

---

The Reference Committee was charged with reporting for ratification certain changes approved by the 1979 House of Delegates and three proposed changes in the IMS Articles of Incorporation and Bylaws. The following recommendations were adopted by the House:

**House Action:** Approved amendment of IMS Articles of Incorporation to accord Executive Council voting privileges to the vice speaker of the House of Delegates and AMA alternate delegates.

**House Action:** Approved amendment of IMS Bylaws to delete the words *and Hospitals* wherever the words *Committee on Medical Education and Hospitals* appear.

**House Action:** Approved amendment of IMS Articles of Incorporation to combine the offices of secretary and treasurer with selection by the Board of Trustees from one of the three trustees.

**House Action:** Authorized creation of 13 IMS councilor districts with new geographic boundaries.

**House Action:** Provided for the unexpired terms of incumbent councilors to continue un-

(Continued on page 292)



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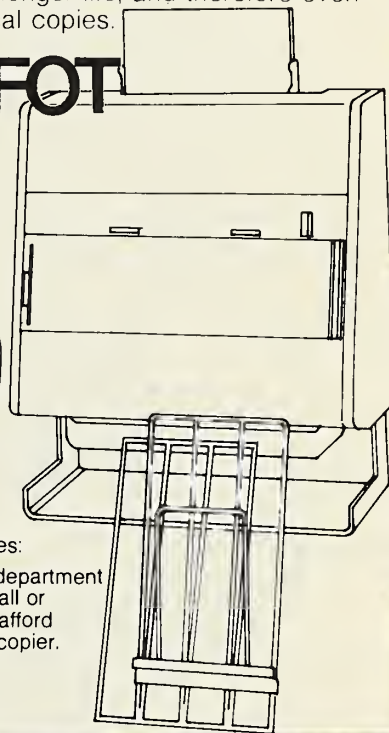
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## SUMMARY OF 1980 HOUSE OF DELEGATES

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til their expiration. Appointment of new councilors will be done pursuant to existing procedures in the IMS Articles of Incorporation and Bylaws.

**House Action:** Authorized and directed the appropriate officers of the Iowa Medical Society to execute whatever procedures are necessary to legally implement authorized changes in the IMS Articles of Incorporation and Bylaws.

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Reference Committee on Reports of Officers and Miscellaneous Business — L. R. Fuller, Chairman, R. J. Barry, J. H. Coddington, R. B. Trimble and J. P. Trotzig

---

Six supplemental reports and five resolutions were considered by the Reference Committee and the following recommendations were adopted by the House.

**House Action:** Instructed that if findings of a minimum wrestling weight determination study produce a workable and scientifically defensible formula for determining minimal weights, the IMS Committee on Sports Medicine, in cooperation with the Iowa High School Athletic Association, is to work toward implementation of this formula in Iowa high school wrestling.

**House Action:** Reaffirmed a belief that all citizens of the state, particularly the elderly, are best served by having their medical and health needs met through establishment of a close and meaningful relationship with their local physician.

**House Action:** Referred the subject of elderly screening clinics to the IMS Subcommittee on Aging and Chronic Illness with the suggestion that it collaborate with the State Department of Health in collecting information on the experience, scope, and cost effectiveness of these clinics.

**House Action:** Encouraged the insurance industry in Iowa to refer to physicians those policy applicants who need an evaluation requiring a physician's skill and judgement and to use paramedical personnel *only* for minimal screening.

**House Action:** Referred to the IMS Board of Trustees a request for an earlier advisory from IMS headquarters regarding the submission of resolutions to the House of Delegates. The IMS Board of Trustees is also requested to review ways of improving even further the method of informing county medical societies about the introduction of resolutions and other aspects of the operation of the House of Delegates.

**House Action:** Approved retention of IMS dues for 1981 at their current level of \$275.

**House Action:** Instructed the Subcommittee on Medical Practice in Health Facilities and Homes to continue its inquiry into Iowa nursing home care, including (a) analysis of a recent survey, and (b) ongoing dialogue with officials of appropriate public and private agencies. Findings and recommendations are to be reported to either the Executive Council or House of Delegates.

**House Action:** Endorsed development of a formal risk management program to be implemented cooperatively by the IMS Medico-Legal Committee and the Aetna Life and Casualty Company.

**House Action:** Asked members of the 1980 House of Delegates to support with local level efforts IMS member participation in the IMS/Aetna risk management program.

**House Action:** Requested the IMS Medico-Legal Committee to explore appropriate inducement to gain maximum physician participation in voluntary education programs through possible granting of CME credit or through investigation of premium discounts for such attendance.

**House Action:** Called for implementation of the Assistance Program for Troubled Physicians as expeditiously as possible.

**House Action:** Approved expansion of the IMS Statewide Physicians Health Program offered by Blue Cross/Blue Shield to include unlimited diagnostic, X-rays, and laboratory (DXL) coverage. Incorporation of this coverage for all program participants is to take place July 1, 1980.

**House Action:** Declared that the IMS is to continue efforts to achieve broader physician understanding of the Iowa Code and related rules and regulations applicable to functions of physicians' assistants. Such efforts are to be emphasized among physicians engaged in su-

(Continued on page 294)



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## SUMMARY OF 1980 HOUSE OF DELEGATES

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pervising physicians' assistants and in operating satellite clinics.

**House Action:** Admonished any sponsoring physician to supervise his/her physician's assistant in accordance with established requirements.

**House Action:** Encouraged and admonished all members to report to the Board of Medical Examiners instances where physicians' assistants or sponsoring physicians are in violation of requirements expressed in the Iowa Code and related rules and regulations.

**House Action:** Urged the Board of Medical Examiners to investigate promptly and dispose of any complaints received regarding physicians' assistants or sponsoring physicians.

**House Action:** Reaffirmed opposition to the granting of prescription writing authority to physicians' assistants.

**House Action:** Instructed the IMS Committee on Delivery of Health Services to continue to monitor developments occurring in Iowa regarding the training and use of physicians' assistants as appropriate to the Executive Council and the House of Delegates.

**House Action:** Asked for specific information to be obtained from the University of Iowa regarding its physician's assistant program and its future. A report on any areas where physician's assistants programs exist is to be submitted to the 1981 House of Delegates.

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Reference Committee on Legislation and Medical Service — Charles A. Johnson, Chairman, Lester Beachy, John L. Garred, Robert T. Melgaard, and Janet B. Wilcox.

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Following consideration by the Reference Committee on four supplemental reports and 10 resolutions, the House adopted these recommendations:

**House Action:** Seek through a state legislator

an Attorney General's opinion clarifying whether a physician, as a matter of law, is compelled involuntarily to certify under Section 321B.5 of the Iowa Code that a patient is in a condition incapable of consent or refusal (as in instances of OMVUI) and if the physician does not, is the physician subject to a charge of obstructing justice.

**House Action:** If the Attorney General rules a physician is subject to possible prosecution for obstruction of justice for refusal to certify (as set forth in the preceding item) then the IMS is to seek corrective legislation.

**House Action:** Encouraged each medical community to reassess its order procedures to assure the prevention of unnecessary and duplicative tests to maximize cost containment consistent with quality patient care.

**House Action:** Asked that the IMS pursue locally and nationally action to have the federal policy rescinded that denies payment to Medicare and Medicaid recipients of pathology and radiology diagnostic services emanating from routine standing orders.

**House Action:** Continue efforts to gain an appropriation to support the Office of State Medical Examiner.

**House Action:** Encourage third party payors to promote patient first dollar responsibility (deductibles) and co-insurance provisions as a reasonable and effective means to control overutilization of health care.

**House Action:** Pursue expansion of the Health Facilities Council to include a physician.

**House Action:** Seek legislation that will require all pills, tablets, and capsules dispensed in Iowa to be readily identifiable when size or composition permits.

The House approved a motion that the actions of the Board of Trustees of the Iowa Medical Society from the date of the last annual meeting to the present be ratified and affirmed. The House acknowledged the outstanding performance of Paul M. Seebohm, M.D., as president of the Iowa Medical Society. The 1981 session of the IMS House of Delegates was announced for May 2 and 3 at the Fort Des Moines Hotel in Des Moines.





## QUESTIONS - ANSWERS

**JACKSON D. VER STEEG, M.D.**  
Des Moines, Iowa

### ABOUT IMPAC

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*Dr. Ver Steeg is the new chairman of the Iowa Medical Political Action Committee. He is in the private practice of anesthesiology in Des Moines. He comments here on the activity of IMPAC, particularly in this 1980 election year.*

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**For the benefit of doctors new to Iowa, and to review for the veterans, what briefly is the Iowa Medical Political Action Committee, and why does it exist?**

The Iowa Medical Political Action Committee (IMPAC) is a voluntary, non-profit, unincorporated committee of individual physicians and friends of medicine. IMPAC is nonpartisan. Support is given to both Democrat and Republican candidates for office. IMPAC receives contributions from Iowa physicians and friends. It uses this money to support candidates whose philosophy is similar to the medical profession, regardless of political party affiliation. Support given any candidate is clearly identified as coming from the Iowa medical community.

### What is the benefit of this activity?

Support of worthy candidates is a keystone of the political process. If one has a basic belief as to how and when government should function, then he should feel a kinship to those elected officials who hold parallel viewpoints. These individuals should thus be assisted in their political efforts. Moreover, and obviously, when medically-related issues are considered by the Iowa General Assembly or the U. S. Congress the opportunity to communicate the position of medicine is strengthened when a rapport has been established with appropriate lawmakers. Nothing is expected of a candidate supported by IMPAC except a willingness to be available to discuss items of mutual interest.

### If candidate support is the key endeavor of IMPAC, how is the decision made on whom to support?

The views of local physicians are essential to assure IMPAC support of worthy candidates. The IMPAC Board of Directors and its staff attempt to interview as many physician supporters of local candidates as possible. Interviews with candidates are also conducted. When possible, candidate voting records are evaluated. The desired end result of these activities is to help elect those candidates whose views we believe to correspond with those of medicine.

### Political participation is encouraged by most believers in the democratic form of government. This principle must have the endorsement of IMPAC?

Most physicians just do not have the time or inclination personally to run for a state or federal office. Yet all of us, with our families, are not too busy to find the time to read, to follow and to participate in the campaign activities of those candidates in whom we have confidence. We recommend that IMS members become active as we move further into the 1980 election campaign.



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## SCIENTIFIC ARTICLES

# Emergency Medical Services in Iowa: An Update

ALBERT E. CRAM, M.D., and

JOE B. TYE, M.A.

Iowa City, Iowa

IN MARCH, 1978, we described emergency medical services (EMS) development in Iowa and outlined future priorities.<sup>1</sup> Since that time, much has been accomplished, and implementation plans for a comprehensive, state-wide system of emergency medical care delivery have been developed. This is an update on the evolving emergency medical services system in Iowa.

#### GOVERNOR'S EMS ADVISORY COUNCIL

The Governor's Emergency Medical Services Advisory Council (GEMSAC) has made substantial progress in the past 18 months. A standard ambulance report form has been developed to collect a 9-point uniform data set with which to evaluate pre-hospital emergency medical care. A statewide plan for ultrahigh frequency communications has been de-

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*Several years ago, Iowa was near the bottom among the 50 states in the development of emergency medical services. Significant progress has been made to correct this deficiency. This is a general status report on the progress which has been achieved.*

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veloped and approved. This plan provides a framework wherein individual EMS regions can implement communications systems which allow for use of medical biotelemetry as part of their advanced ambulance services. GEMSAC has also developed funding legislation to support further development of emergency medical services in Iowa; it is expected this will be considered by the legislature in 1980.

Perhaps the most important 1979 accomplishment of GEMSAC has been the approval of criteria for the categorization of hospital critical care capabilities. These guideline criteria will help in the assessment of hospital capabilities as they apply to the care of trauma, burns, spinal cord injuries, cardiac, high risk infant, poisoning, and psychiatric emergencies. The criteria are based on standards developed by national professional organizations in various fields. They can be related to the level of care available at each hospital, and they may serve as improvement goals in some in-

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Dr. Cram is director, Burn Unit, University Hospitals, and chairman, Governor's Emergency Medical Services Advisory Council. Mr. Tye is administrative associate, Emergency Medical Services, University Hospitals, and president, Southeast Iowa Emergency Medical Services Council.

THE SCANLON MEDICAL FOUNDATION/IOWA MEDICAL SOCIETY HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF JULY 1980.

stances. It is the desire of GEMSAC that categorization of hospital emergency and critical care capabilities be a continuously-evolving, dynamic process.

#### REGIONAL EMS COUNCILS

In 1979, 2 of Iowa's 7 EMS regions received federal grants totaling \$970,000 to implement comprehensive EMS programs. These regions are Southeast Iowa (in its second year of funding) and Central Iowa (in its first year of funding). All 7 EMS regions have received initial planning grants; only one other Iowa region, in addition to those noted, has received an implementation allocation. The other regions are preparing grant applications.

The regional councils — with substantial input from physicians, hospitals, ambulance services, and consumers — are developing comprehensive plans for emergency medical services. They are then using federal grants and local contributions to implement their plans. Typically, EMS councils are involved in the purchase of hospital, ambulance and communications equipment; training of personnel; development of emergency patient transfer plans; and protocols to evaluate the quality of emergency medical care in the region. As we mentioned in our first article, knowledgeable physician participation is crucial to the success of these councils.

#### ADVANCED EMERGENCY CARE LEGISLATION

In 1979, the Iowa General Assembly passed advanced emergency medical care legislation. This law and its implementing rules and regulations specify the advanced procedures EMT's are allowed to perform; establishes requirements for physician supervision; and imposes operational standards for advanced ambulance services and for training programs. Essentially, three levels of advanced care are permitted. These are:

1. **EMT-I:** EMT-A's who have been trained to use esophageal obturator airways and provide IV therapy;

2. **EMT-II:** In addition to the skills of the EMT-I, EMT-II's are allowed to perform endotracheal intubation, defibrillation, and to administer appropriate medications. Certification in advanced cardiac life support is required following the standards of the American Heart Association;

3. **EMT-Paramedic:** In addition to the skills of the EMT-II, EMT-Paramedics have received advanced training in trauma care, medical, OB/GYN, pediatric, and behavioral emergencies, as well as rescue and extrication techniques.

The new law requires strict medical supervision of advanced ambulance and rescue services. There must be a designated physician medical director, who may be assisted by supervising physicians and physician designees. All personnel responsible for supervising advanced life support must be certified in advanced cardiac life support or its equivalent. There must be radio communication between the authorized physician or physician's designee and the ambulance technician in the field before the initiation of advanced care (except in the event of radio failure). There must be review by a physician of all patients who have had advanced life support procedures administered by ambulance personnel. Any ambulance service wishing to provide advanced life support must be approved by the Iowa State Department of Health, and advanced life support training programs must be approved by the Iowa State Board of Medical Examiners.

A frequent question relating to the advanced emergency medical care law has to do with the degree of responsibility physicians assume in supervising ambulance services. The law does make a physician responsible for the quality of advanced ambulance care. The physician is required to be aware of the capabilities of EMT's on the ambulance service, and to assure that all ambulance technicians, supervising physicians and physician designees are qualified. The law provides strongly-worded protection against civil or criminal liability of physicians, physician designees, and ambulance personnel involved in rendering advanced life support. Our investigations also indicate that many medical malpractice policies cover involvement with ambulance services without additional premium. Each individual practitioner should, however, check his or her own liability policy to assure the coverage is present, particularly if there is involvement in supervising advanced pre-hospital care.

#### EMERGENCY RESPONSE SYSTEM

An efficient emergency transportation system, coupled with the categorization of hospital emergency facilities, can improve care and



reduce mortality associated with medical emergencies.<sup>2-5</sup> Rapid progress is being made toward this goal in Iowa. Many rural communities have established first response services staffed by volunteers. A quick response team can be dispatched to the scene of an emergency to provide immediate first aid. These services are supported by ambulance programs in nearby larger communities. In general, the quality of Iowa ambulance services has improved significantly over the past 18 months. A very positive development has been the increasing willingness of hospitals to assume some responsibility for providing EMT-A's with in-hospital clinical experience and training. New hospital-based emergency helicopter services in Iowa City and Des Moines have provided an added dimension to the state's emergency patient transportation system. These services have dramatically reduced the time required to transport the critically ill or injured patient from a community hospital to a regional emergency medical center for definitive treatment. The helicopters have also been requested by ground ambu-

lance services to deliver a more sophisticated level of care directly at the scene of an emergency.

#### CONCLUSION

Much progress has been made in developing an Iowa emergency medical services system since our last report. There has been a growing recognition of the central role of the physician and the hospital in the system. We believe that Iowa — which several years ago was referred to as "forty-eighth of the 50 states in EMS development" by a senior HEW official — has now moved well ahead, and has the potential to develop one of the finest emergency medical services systems in the country.

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GLENN B. PURNELL, M.D.

Des Moines, Iowa

ULTRASOUND has become a well established modality in the diagnosis of gall bladder disease. At Iowa Lutheran Hospital it is used routinely as an adjunct to gall bladder radiographic procedures. Non-visualizing gall bladders are followed immediately by ultrasound exam. This frequently establishes the diagnosis, thus saving a repeat examination and possibly shortening the hospital stay.

Ultrasound has become a primary diagnostic tool in working up cases of suspected pancreatic, hepatic or biliary tract abnormalities. This paper describes the unusual manifestation of a recent case of biliary tract disease.

## CASE REPORT

A 78-year-old white female, with a past history of cardiac disease, entered the hospital in congestive heart failure. She was also moderately confused. She responded satisfactorily to treatment but complained of increasing epigastric pain over several days time. A palpable, tender epigastric mass developed in 3 to 4 days. Jaundice was evident by observation. Bilirubin was 3.8, alkaline phosphatase 304. There was no significant history of gastrointestinal or gall bladder complaints.

Dr. Purnell is associated with the Department of Radiology at Iowa Lutheran Hospital in Des Moines, Iowa.

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*Use of ultrasound is now common to help diagnose gall bladder disease. In this short case report an ultrasound examination revealed a prominent anterior abdominal mass — followed by surgery and an uneventful recovery.*

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Ultrasound exam revealed a prominent anterior abdominal mass, containing fluid and debris. Gall stones were also found. Surgical exploration was undertaken.

Upon opening the midline fascia a cavity was entered composed of necrotic fat and containing a large amount of free bile, with little odor noted.

The pancreas was normal to palpation. A massive amount of omentum and fat was adherent to the area of the gall bladder, and the gall bladder wall was necrotic. Eight stones were found in the gall bladder. The common duct was dilated and a stone was impacted in



Figure 1. Large localized collection with dependent debris.



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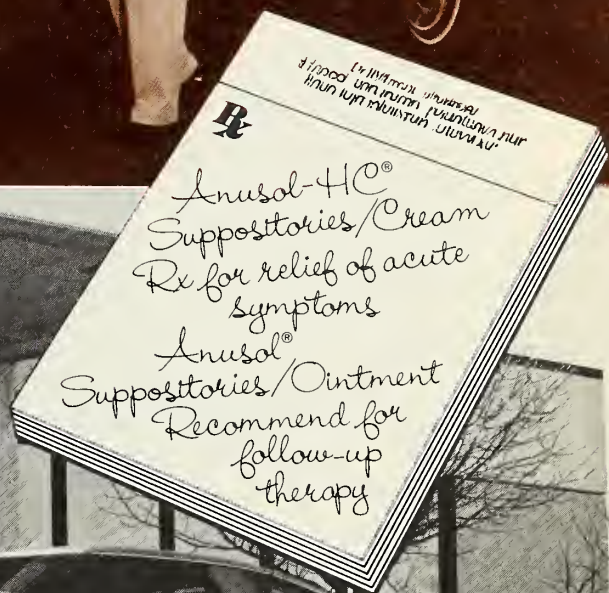
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Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg; bismuth subgallate, 22.5 mg; bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

**Indications:** Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, anal fissures, incomplete fistulas and relief of local pain and discomfort following anorectal surgery.

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**Contraindications:** Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations.

**Warnings:** The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

**Precautions:** Symptomatic relief should not delay definitive diagnoses or treatment.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued and appropriate therapy instituted.

In the presence of an infection the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled.

Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Anusol-HC is not for ophthalmic use.

**Dosage and Administration:** Anusol-HC Suppositories — Adults: Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at

bedtime for 3 to 6 days or until inflammation subsides. Then maintain patient comfort with regular Anusol Suppositories.

**Anusol-HC Cream — Adults:** After gentle bathing and drying of the anal area, remove tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain patient comfort with regular Anusol Ointment.

**NOTE:** If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

**How Supplied:** Anusol-HC Suppositories — boxes of 12 (N 0047-0089-12) and boxes of 24 (N 0047-0089-24) in silver foil strips with Anusol-HC W/C printed in black.

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Figure 2. Sagittal section in midline.



Figure 3. Gall stones (small open arrowheads) and bile collection (large arrowhead).

the distal end. The patient made an uneventful recovery following the surgery.

#### DISCUSSION

A pancreatic pseudocyst was suspected clinically. At first, ultrasound seemed to confirm this, as well as demonstrating gall stones. However, there was no evidence for pancreatic disease in the studies, which would diminish the probability of a pseudocyst. Only one case of a similar nature was found in the literature.<sup>1</sup> Perforation of a diseased gall bladder is a well known entity. This case demonstrates an unusual finding in this disease process with a well localized collection of bile.

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#### Brief Summary

**INDICATIONS:** For the prevention and treatment of nocturnal recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis, and static foot deformities.

**CONTRAINDICATIONS:** Because of the quinine content, Quinamm is contraindicated in women of childbearing potential, in pregnancy, in patients with known quinine sensitivity, and in patients with glucose-6-phosphate dehydrogenase deficiency. Hemolysis (with the potential for hemolytic anemia) has been associated with a G-6-PD deficiency in patients taking quinine.

**PRECAUTIONS:** Thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients. Recovery will follow withdrawal of the medication. Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

**ADVERSE REACTIONS:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. If ringing in the ears, deafness, skin rash, or visual disturbances occur, the drug should be discontinued.

#### DOSAGE AND ADMINISTRATION:

1 tablet upon retiring. When necessary, 1 additional tablet may be taken following the evening meal.

Product Information as of September, 1977

U.S. Patent 2,985,558

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## COMMENTING EDITORIALY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### A MEDICAL HERETIC

Do not be surprised if some of your patients confront you with pointed questions about your diagnosis and treatment. Or a patient may deliberately challenge you on your conclusions in the choice of a given prescription. These are the tactics of a medical guerilla, suggests Robert S. Mendelsohn, M.D., in his book, *Confessions Of A Medical Heretic*. A heretic is one who does not adhere to dogma, one who voices opposition to a belief. Mendelsohn likens physicians to priests — priests of the Church of Modern Medicine, and to him the God of Modern Medicine is Death.

The author uses generalizations to promote his criticism of the medical profession. For example, he states the death rate in Los Angeles County dropped 18% when physicians there went on strike to protest malpractice insurance

premiums. He adds the drop in death rate was, in part, due to 60% fewer operations. He contends physicians should reduce their involvement with people by 90% and attend only emergencies.

A strong stand is made on the nature of physician training. It is suggested medical schools do their best to turn smart students stupid, honest students corrupt, and healthy students sick. The charge is made that medical school curriculum is meaningless as far as healing or health is concerned. An accusation is made that the student is weakened by fatigue and fear. This fear is calculated to give the student several concerns for his future — failure, missing a diagnosis, malpractice, remarks by his peers, and above all a fear that the physician will have to find honest work.

The reward for accepting these fears is arrogance. Mendelsohn contends the arrogance of the medical profession is demonstrated by its identity with the true elitist classes of society, its inability to communicate with patients, and the attitude that its rituals are sacred and potent regardless of their real efficacy.

Mendelsohn proposes a New Medicine which says the physician is not a priest, but a participant in community life. He proposes a close working relationship between physician and patient with central roles played by the patient, the family and the community. The physician of the New Medicine shall know the various methods of treating disease, including nutritional therapy, chiropractic, homeopathy,

*(Please turn to next page)*

### DR. DONNELLY

*Dear Dr. Alberts:*

Madelene Donnelly Healy, Maggie Donnelly to most of us, died last night (May 25). I first knew Maggie when she was in private practice in Mason City. She was a busy practitioner back in those depression days. Because of her polio disability, she gave up private practice and became a school physician at Mississippi State Girls College. From there she went back to school specializing in public health at the Michigan College of Medicine. Following com-

pletion of her postgraduate work, she joined the Health Department in Idaho. Here, she found herself in the midst of a severe polio epidemic and established care centers all over Idaho.

Madelene returned to Iowa where she headed the Maternal and Child Health Department of the Iowa State Department of Health until her retirement. She worked hard for the mothers and children of the state, investigated all maternal deaths, and set up the poison information centers in Iowa.

Maggie will be long remembered and mourned by her many medical friends in Iowa and elsewhere. — *Harold W. Morgan, M.D.*

etc. He must protect the patient from the excesses of specialists, e.g., refusing to let surgeons mutilate their bodies.

The heretic goes on and on casting general accusations of the inept, horrendous, greedy, arrogant, harmful actions of present day physicians. We cannot all be as bad as he seems to infer. I hope the verbal abuse will have merit in awakening some who are as he describes. Some of his proposals, such as reverting to home deliveries, elimination of chemotherapy

altogether, etc. could take us back to the health standards of the previous century. All is not as bad as Mendelsohn would have us believe; yet some of his proposals may have merit. The ideal is moderation in all things . . . a reassessment of all our values; the casting aside of the undesirable and accepting the good. Our patients have a right to question our ways, and we have the duty to enlighten them in a straightforward and honest manner. — M.E.A.

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The services of the Iowa State Medical Library are available to all Iowa physicians, nurses, and other health personnel, as well as other Iowa citizens needing health information. The Library is located in the Iowa State Historical Building, East 12th and Grand Avenue, Des Moines, and its services are available 8 a.m. to 4:30 p.m., Monday through Friday.

Specific journal articles may be requested directly from the State Medical Library or

through local or hospital libraries. Interlibrary loan services are available. Subject searches are also available. Several data bases are utilized including MEDLINE, EXCERPTA MEDICA, ERIC, and others. 80,000 accessioned volumes are available.

This JOURNAL is pleased to have a close relationship with the State Medical Library. Its central location is ideal for physicians throughout the state. The worth of the Library is measured by its use. Feel free to call for your reference needs. The Des Moines telephone number is 515/281-5772; the In-State WATS 800/362-2384. — M.E.A.

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# DRUG THERAPY REVIEW



## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

### CLINICAL PHARMACOLOGY OF THEOPHYLLINE

For nearly 6 decades, theophylline has been used as a bronchodilator, cardiotonic, diuretic and respiratory stimulant. During this time, its use has also been associated with reports of serious toxicity. However, recent definition of its pharmacodynamics and pharmacokinetics and the availability of clinically useful drug assays has improved both the safety and efficacy of therapy with this drug.

#### CLINICAL PHARMACOLOGY

Theophylline relaxes bronchial smooth muscle, thus relieving or preventing symptoms of asthma. In addition, it has a complex set of actions on the cardiovascular system which provides potential benefit for congestive heart failure. As with other methylxanthines such as caffeine, it has a transient diuretic effect, stimulates the central nervous system and appears to increase gastric acid secretion.

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

Theophylline is rapidly and completely absorbed unless the formulation decreases the rate of dissolution in the stomach. Some slow-release oral formulations are erratically and inconsistently absorbed while others are sufficiently reliable to offer therapeutic advantage in children and other patients with rapid elimination.<sup>1</sup> Rectal solutions are well absorbed and useful in patients who are NPO or nauseated for reasons other than theophylline toxicity. However, absorption from suppositories is delayed, erratic and incomplete.<sup>2</sup>

At physiologic pH, theophylline rapidly distributes into peripheral tissues becoming reversibly bound to protein to the extent of 40-65%. Binding is somewhat reduced in neonates and in the presence of acidemia. The apparent volume of distribution which is the major determinant of the serum concentration resulting from a single dose, averages about 0.5 L/kg (about 0.6 L/kg in neonates) with a range 0.3 to 0.7 L/kg.

Biotransformation of theophylline in the liver to relatively inactive metabolites occurs over multiple parallel pathways by both first-order and capacity-limited kinetic processes; less than 10% of the drug is excreted in the urine unchanged. In the neonate, theophylline is metabolized in part to caffeine. Conversely, theophylline is a minor metabolite of caffeine, even in adults. While on the average, children have more rapid clearance of theophylline than nonsmoking adults, and smokers have more rapid clearance than nonsmokers, large variability in the rate of clearance is observed even among otherwise similar groups of patients.

Mean plasma clearance rates are markedly reduced in neonates and infants under 8 months, by cardiac decompensation, hepatic dysfunction, cor pulmonale, and sustained fever. Concurrent administration of macrolide antibiotics also reduces clearance with troleandomycin (TAO) having a more pronounced effect than erythromycin. Cessation of smoking (cigarettes or marijuana) is associated with gradual slowing of clearance, which results in a decrease in daily dosage requirements. In the absence of confounding factors, clearance rates, serum levels, and dosage requirements in both children and adults generally remain stable for at least 6 to 12 month periods.<sup>3-5</sup>

## INDICATIONS

Theophylline is highly effective in the prevention of symptoms from chronic asthma when dosage regimens with sustained-release products are individualized to maintain serum concentrations within the 10-20 mcg/ml therapeutic range around the clock.<sup>6</sup> Since theophylline will not reliably reverse airway obstruction that is unresponsive to a potent dose of an inhaled sympathomimetic bronchodilator, a course of corticosteroids may be necessary under such circumstances to assure an adequate opportunity for maximal efficacy.

Among patients with intermittent symptoms of asthma not requiring continuous therapy, rapidly absorbed or intravenous forms of theophylline are effective adjuncts to inhaled or injected sympathomimetic bronchodilators for the treatment of acute respiratory distress.

Theophylline appears to be effective as a respiratory stimulant in the treatment of Cheyne-Stokes respirations<sup>7</sup> or recurrent apnea in the neonate.<sup>8</sup> However, the relative efficacy and safety of theophylline compared to caffeine for these indications awaits further study.

Administration of theophylline may be an useful adjunct in the treatment of congestive heart failure or acute pulmonary edema. Since these patients are at higher risk for accumulating toxic concentrations, however, therapy should be cautious and must not be continued beyond 12 hours unless dosage is carefully guided by measurement of serum concentration.

## TOXICITY

Minor transient caffeine-like side effects, including nausea, insomnia, nervousness and headaches, are common following rapid attainment of a serum concentration over 10 mcg/ml even if under 20 mcg/ml. About 96% of adults and 99% of children, however, will develop tolerance to these effects over a period of days. With progressive titration from low doses over at least a week, these effects are generally avoided.

On the other hand, when serum concentrations exceed 20 mcg/ml, adverse effects occur more frequently and with greater severity.<sup>9</sup> These include nausea, vomiting, diarrhea, headache, and irritability. The risk of cardiac arrhythmias, seizures, and death increases progressively with increasing serum concentrations.<sup>10</sup> Since minor adverse effects,

such as nausea, frequently do not precede life-threatening toxicity, these clinical signs cannot be used as a dosing endpoint. Only serum concentration measurements can be relied upon to forewarn physicians of impending life-threatening theophylline toxicity.

The rapid intravenous injection of otherwise acceptable doses of theophylline, particularly when administered directly into a central venous line, can produce an unexpected cardiac arrest. When the same dose is administered over 30 minutes, only minor adverse effects occur.

## DOSAGE & SERUM CONCENTRATION MONITORING DURING CONTINUOUS THERAPY FOR CHRONIC ASTHMA

An initial dosage of 16 mg/kg/day ideal body weight or 400 mg, whichever is less, is generally well tolerated. Dosage should be increased by about 25% at three day intervals until mean weight-adjusted, age-specific daily doses are reached. At these maximum doses (24 mg/kg/day for children 1 to 9 years; 20 mg/kg/day for children 9 to 12 years; 18 mg/kg/day for adolescents 12 to 16 years; and 900 mg/day for otherwise healthy nonsmoking adults), 50% of patients are likely to have a peak serum concentration of less than 10 mcg/ml while 20% modestly exceed 20 mcg/ml.<sup>5</sup> Serum concentration then must be measured for final adjustment of dosage. If these or lower doses are associated with adverse effects, the dose must be lowered to the previous tolerated level and serum concentration measured at the lower dose.

In patients with cardiac decompensation, cor pulmonale, hepatic dysfunction or other factors associated with reduced clearance rates, the maximum dose before serum concentration measurement must not exceed 400 mg per day.

When Theodur (Key Pharmaceutical), the slowest absorbed bioavailable slow-release product, is used, the total daily dose can be divided into two equal parts and administered conveniently at 12 hour intervals for most patients. For children who are unable to swallow Theodur, the total daily dose can be divided into three equal parts and administered at 8 hour intervals by sprinkling the beaded contents of the Slo-Phyllin Gyrocap capsule (Dooner Laboratories) on a spoonful of food which then should be followed by a tasty beverage to wash the beads down unchewed. When bronchodilator responsive asthmatic

*(Please turn to page 308)*



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## DRUG THERAPY REVIEW

(Continued from page 306)

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symptoms occur before the next dose and the peak serum concentration is in the therapeutic range, the interval must be shortened without increasing the total daily dose. Measurement of serum concentration for determining appropriate dosage for continuous therapy should be performed only at steady-state conditions, i.e., when no doses have been missed, added, or taken at atypical times, and should be an estimate of the peak concentration during a typical dosing interval. The peak concentration occurs about 2-4 hours after a dose depending upon the formulation. Once dosage requirements are established, serum concentration measurements need only be repeated at yearly intervals in the absence of other factors that might alter clearance (e.g., rapid growth, cessation of cigarette smoking, fever, other medications).

### ACUTE THERAPY

Each mg/kg of theophylline administered as a loading dose increases the serum concentration by about 2 mcg/ml (based on a 0.5 L/kg volume of distribution). Using 10-15 mcg/ml as the target concentration, 5-7.5 mg/kg of theophylline (aminophylline is 85% theophylline) will result in blood levels averaging 10-15 mcg/ml if no prior theophylline was taken. Loading doses must obviously be scaled down in proportion to the initial blood level for pa-

tients who had taken previous theophylline-containing medication. Intravenous loading doses should be infused over 30 minutes. Subsequently, a constant infusion should be given at doses of 0.75 mg/kg/hr for children one to 12 years, 0.5 mg/kg/hr for otherwise healthy nonsmoking adults (0.75 mg/kg/hr for smoking adults), 0.15 mg/kg/hr for adults with cardiac decompensation, hepatic dysfunction or neonates. Mean requirements for infants beyond the neonatal period increase by .075 mg/kg/hr for each month of age up to a dose of 0.75 mg/kg/hr.

During intravenous therapy, a blood sample is obtained 30 minutes after completion of the loading dose to ascertain if an additional loading dose is needed. Another sample is obtained 4 to 6 hours later to see if the infusion rate needs to be increased or decreased. Additional samples should be obtained 12-18 hours later and then at 24 hour intervals until the infusion is discontinued.

Equivalent doses of oral medication may be substituted for milder acute symptoms using a rapidly absorbed formulation. When there is concern about retention of an oral medication as with a young child who vomits during spasms of coughing from asthma, a rectal solution is appropriate. *Rectal suppositories are poorly bioavailable and have no indication.*

### MANAGEMENT OF THEOPHYLLINE POISONING

Ingestion of an oral dose exceeding 10 mg/kg requires prompt emergency treatment with syrup of ipecac followed by activated charcoal and sodium sulfate after vomiting. Serum concentrations should be measured and all pa-

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### REFERENCES

*Editor's Note: The reader is referred to references 12 and 13 for a more comprehensive review of the clinical pharmacokinetics of theophylline or additional references.*

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tients with excessive levels should be monitored in an intensive care unit. If the serum concentration is 60 mcg/ml or greater, charcoal hemoperfusion can rapidly remove theophylline<sup>11</sup> and consequently may prevent seizures. This is not warranted when the concentration is less than 40 mcg/ml since the risk of the procedure outweighs the potential benefit. In the range of 40-60 mcg/ml, the decision must be individualized depending on the clinical situation.

#### CONCLUSION

Theophylline is a potent bronchodilator and respiratory stimulant effective in the treatment

of acute and chronic asthma, Cheyne-Stokes respirations, and neonatal apnea. Its cardiovascular effects support its consideration as an adjunct in the treatment of heart failure. In order to obtain maximum benefit without toxicity, dosage must be individualized. Ingestion of toxic quantities of theophylline requires immediate removal of the drug, intensive monitoring, and consideration of charcoal hemoperfusion. — LESLIE HENDELES, PHARM.D., Professor, College of Pharmacy, and Clinical Pharmacist, Pediatric Allergy Clinic, and MILES WEINBERGER, M.D., Associate Professor of Pediatrics and Chairman of the Pediatric Allergy and Pulmonary Division.

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## STATE DEPARTMENT/ PUBLIC HEALTH

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### NITRATES: GROUND WATER

The ingestion of drinking water containing a high concentration of nitrates may cause intoxication in humans. The disease is referred to as cyanosis, methemoglobinemia, or the "blue baby" disease.

Reported human cases, primarily in infants, have been associated with consumption of well water containing excessive levels of nitrates. The public health standard is 45 milligrams per liter (45 mg/l) as  $\text{NO}_3$ . Severe and occasionally fatal cases have been reported in infants who have consumed water containing higher concentrations. The most recently reported incident in Iowa occurred last spring when a 3-week old child consumed approximately 4 ounces of 1200 mg/l nitrate in water obtained from a poorly constructed farm well near an

animal feeding operation. The child survived after hospitalization and treatment with methylene blue solution. Less severe cases have been reported following consumption of water in ranges above 200 mg  $\text{NO}_3$ /l.

Several factors make infants susceptible. Their fluid intake per body weight is approximately 3 times that of an adult. Secondly, due to the higher pH found in an infant's gastrointestinal tract, bacteria capable of nitrate reduction are present in great numbers. This flora converts nitrate to nitrite which converts hemoglobin to methemoglobin after absorption. Although drinking water with high nitrates has no apparent effect on adults and older children, consumption of water containing high levels should be avoided by all age groups.

#### NITRATES IN GROUND WATER

Nitrate is a naturally occurring chemical and is ubiquitous in nature. Our atmosphere and soil are provided with an abundance of nitrogen (air contains 80% nitrogen gas), and when combined with oxygen and water through organic decomposition, nitrates are formed. In many instances, especially in agricultural areas, nitrates are highly concentrated on the land surface due to human activities (i.e., application of fertilizers, confined feeding operations and domestic/commercial waste disposal). Such concentrations become a drinking water problem when surface water and runoff are allowed to be diverted directly into the ground water aquifers through avenues such as "sink

(Please turn to page 311)

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This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

## May 1980 Morbidity Report

Disease	May 1980 Total	1980 ta Date	1979 ta Date	Most May Cases Reported From These Counties
Amebiasis	0	3	47	
Brucellosis	3	4	2	Cerra Garda, Dubuque
Chickenpox	1444	7071	6690	Black Hawk, Des Moines, Linn,
Cytomegalovirus	6	10	4	Jahnsen, Palk
Eaton's Agent infection	0	7	25	
Encephalitis, viral	1	7	7	
Erythema infectiosum	214	387	792	Benton, Lee, Van Buren
Gastroenteritis (GIV)	1685	12975	12358	Linn, Palk, Scott, Pattawattamie
Giardiasis	1	8	14	Clinton
Hepatitis, A	20	68	79	Palk, Scott, Wapella
Hepatitis, B	9	35	37	Palk, Butler
type unspecified	5	33	23	Scattered
Herpes simplex	12	42	32	Jahnsen
Herpes zoster	1	1	0	Palk
Histoplasmosis	3	12	0	Dubuque
Infectious mononucleosis	37	197	326	Linn, Mahaska, Palk
Influenza, lab confirmed	7	107	34	Scattered
Influenza-like illness (URI)	3692	47829	39616	Pala Alta, Winnebago, Linn
Meningitis				
aseptic	3	11	12	Scattered
bacterial	17	58	56	Scattered
meningococcal	0	5	5	
Mumps	10	34	212	Black Hawk
Pertussis	0	0	1	
Rabies in animals	63	172	77	Scattered
Rheumatic fever	0	0	0	
Rubella				
(German measles)	0	3	49	
Rubeola (measles)	0	0	14	
Salmonella	14	48	62	Linn
Shigella	6	28	33	Scattered
Tuberculosis				
tatal ill	1	32	35	
bact. pas.	1	25	31	
Venereal diseases:				
Gonorrhea	423	1930	2400	Palk, Waadbury
Syphilis	0	8	21	

Laboratory Virus Diagnosis Without Specified Clinical Syndrome: Adenovirus — 1, Wapella; Scarlet Fever — 1, Delaware, 1, Des Moines, 3, Jackson, 1, Linn, 5, Palk; Kawasaki — 1, Scott; Tularemia, 1, Dallas; Campylobacter — 4, Dubuque, 1, Linn, 3, Palk; Taxoplasmosis, 1 Palk.

## Tenuate®

(diethylpropion hydrochloride NF)

## Tenuate Dospan®

(diethylpropion hydrochloride NF) controlled-release

### AVAILABLE ONLY ON PRESCRIPTION

#### Brief Summary

**INDICATION:** Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

**CONTRAINDICATIONS:** Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

**WARNINGS:** If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence.** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychological dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

**PRECAUTIONS:** Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

**ADVERSE REACTIONS:** **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

**DOSAGE AND ADMINISTRATION:** Tenuate (diethylpropion hydrochloride) One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.

**OVERDOSAGE:** Manifestations of acute overdose include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdose.

Product Information as of April, 1976

MERRELL-NATIONAL LABORATORIES Inc.

Cayey, Puerto Rico 00633

Direct Medical Inquiries to:

MERRELL-NATIONAL LABORATORIES

Division of Richardson-Merrell Inc.

Cincinnati, Ohio 45215, U.S.A.

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References: 1. Citations available on request from Medical Research Department, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon (Dillon), R.H., and Leyland, H.M. A comprehensive review of diethylpropion hydrochloride. In: Central Mechanisms of Anorectic Drugs, S. Garattini and R. Samanin, Ed., New York, Raven Press, 1978, pp. 391-404.

# Merrell

9-4672 (Y957A)



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## SDH/NITRATES: GROUND WATER

(Continued from page 309)

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holes," river beds, poorly constructed wells, abandoned wells; mismanaged quarries, disposal sites and surface drainage well systems.

Nitrates also enter the ground with water as it percolates through the top soil but, because of the soil's protective nature, this situation creates a less significant "background" amount. Soil very effectively removes pathogens and other organisms from surface water as it percolates downward and it significantly reduces concentrations of nitrates through denitrification and uptake by plants and microorganisms. If the soil is supersaturated with nitrates, or the soil cover is removed or doesn't exist, nitrate movement is accelerated at higher concentration downward into the ground water.

With the increase in use of farm chemicals and the frequent occurrence of improper disposal of chemical wastes on land, it is suggested that an unusual increase of nitrates in the ground water may reflect the possible presence of other more hazardous chemicals. This relationship should receive further study since we know nitrates percolate very similarly to other chemicals. Accordingly, nitrate levels may be a more appropriate index of chemical contamination of ground water than coliform bacteria counts.

### PREVENTION AND CONTROL

Treatment or removal of nitrates from water have been suggested through such methods as anion exchange, reverse osmosis, bio-denitrification, electrodialysis, distillation and

chemical coagulation, but these remain impractical due to cost, sophistication of equipment or poor treatment methodology. Until this technology is improved, nitrate treatment is not feasible especially on a small-scale basis. Boiling of water will not reduce or eliminate nitrates. Only bacteria, viruses and other organisms are eliminated through high temperatures.

In many instances, renovation or reconstruction of a well can reduce or eliminate nitrates in well water. Where surface water leaks directly into the casing due to faulty construction, replacement of the upper well terminal with standard well casing is advised as well as cement sealing (grouting) outside of the casing and proper landscaping. Where existing ground water is contaminated, location of a new well on a new site is advised or extending the depth to an uncontaminated water table (aquifer) and sealing off contaminated water tables. Proper well construction and maintenance practices are also recommended for eliminating other chemical and bacterial contamination problems in drinking water.

In a number of situations, abatement of ground water contamination is not possible because of the contamination's irreversible characteristics. Incidents of ground water contamination can be eliminated, therefore serious consideration should be given to a sound ground water protection program not now established in Iowa. A program must include minimum criteria for construction and abandonment of wells, a state certification program for water well contractors, and an overall effort to keep the public informed of the invisible damage that occurs with poor management of ground water resources. — *Kenneth Choquette, Health Engineering Section*

## LATOURETTE RETIRES

Veteran U. of I. faculty member Howard B. Latourette, M.D., was honored June 14 at a retirement roast in Iowa City attended by over 200 friends, department members and former residents from across the country.

Dr. Latourette has been at the U. of I. since

1959. He retires as chief of the Radiation Therapy Section at University Hospitals, a position in which he has become well known to Iowa physicians for his care of cancer patients. Dr. Latourette will remain associated with University Hospitals through the SEER (Surveillance Epidemiology End-Results) program which begins this fall. He will also be a therapy teaching resource.

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## ABOUT IOWA PHYSICIANS

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**Dr. Mervin C. McClenahan**, former Sigourney physician, has joined the medical staff at the John Deere Dubuque Works. Dr. McClenahan received the M.D. degree at U. of I. College of Medicine and served his residency at the Stanford Medical Center at Palo Alto, California.

**Dr. Emory D. Warner**, professor emeritus and former head of pathology at the U. of I. College of Medicine, has received the American Association of Pathologists Gold-Headed Cane Award. The award honors a physician for representing "the highest ideals in medicine and pathology." Created in 1919, it continues an English tradition of passing a gold-headed cane from one British physician to another from 1689 to 1825. The original cane is now on

display at the Royal College of Physicians in London. A native of North English, Dr. Warner received the M.D. degree at U. of I. College of Medicine; interned at the University of Rochester and joined the U. of I. faculty in 1930. . . . **Dr. Abner Buresh**, Lime Springs, recently was honored by the local Jaycees for his 41 years of medical practice in the community. Dr. Buresh received the M.D. degree at U. of I. College of Medicine and interned at Fresno County Hospital in Fresno, California. He began his medical practice in Lime Springs in 1939. . . . **Dr. Richard D. Eckhardt**, professor in the Department of Internal Medicine at U. of I. College of Medicine and chief of staff at Iowa City Veterans Hospital, retired July 1. Dr. Eckhardt joined the U. of I. faculty in 1949 and was recently recognized for having been associated with the Iowa City VA facility continuously since its opening. Dr. Eckhardt received the M.D. degree at Harvard Medical School and completed his residency in internal medicine at Boston City Hospital. Prior to locating in Iowa City, Dr. Eckhardt engaged in three years of clinical investigatorship training in liver disease and nutrition at the Thorndike Memorial Laboratory of Boston City Hospital.

## DEATHS

**Dr. Madelene Donnelly Healy**, 76, Clear Lake, died May 25. Dr. Healy received the M.D. degree at U. of I. College of Medicine, and completed her residency in preventive medicine and public health at the Michigan College of Medicine in Detroit. Dr. Healy headed the Maternal and Child Health Department of the Iowa State Department of Health for many years and was a longtime member of the IMS Committee on Maternal and Child Health.

**Dr. H. Dudley Noble**, 48, Iowa City, died May 15 at his home. Dr. Noble received the M.D. degree at U. of I. College of Medicine. A varsity football player at the U. of I., he was a member of the University's Lettermen's Club, member of the Alpha Kappa Kappa medical fraternity, and the National Orthopedic Society.

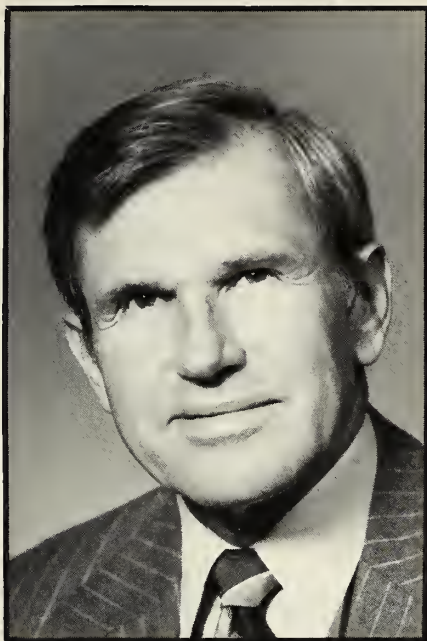
**Dr. Harry W. Dahl**, 88, Des Moines, died May 17 at Iowa Lutheran Hospital. Dr. Dahl received the M.D. degree at U. of I. College of Medicine. A lifelong Des Moines resident, he was former chief of radiology at Iowa Lutheran Hospital, Broadlawns Medical Center, Mercy

Hospital Medical Center and Veterans Administration Medical Center. Dr. Dahl was a member of the American College of Radiology and a past president of the Des Moines School Board.

**Dr. C. Harlan Johnston**, 74, died May 27 at his home in Sun City, Arizona. Dr. Johnston received the M.D. degree at U. of I. College of Medicine. He was a retired physician for the John Deere plant at Ankeny and former director of medical education at Iowa Lutheran Hospital. A retired colonel in the Air Force Reserve, Dr. Johnston was born in Des Moines and lived here until moving to Sun City five years ago.

**Dr. Walter A. Kirch**, 79, former Des Moines physician, died at his home in Bronxville, New York, June 4. Dr. Kirch received the M.D. degree at the University of Florence in Italy. Dr. Kirch came to the United States in 1928 and practiced four years on a fellowship at the Mayo Clinic in Rochester, Minnesota, prior to opening his Des Moines office. He was a Des Moines physician for over 40 years, retiring in 1977.





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## PRESIDENT'S PRIVILEGE

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**O**UR COVER photograph is the first of several references to nurses and nursing in this issue.

On the inside pages I call your attention to (a) some interesting Question/Answer comments from the executive director of the Iowa Nurses' Association; (b) informative references to Florence Nightingale by Dr. Caplan; (c) an editorial expression about nursing by Dr. Alberts, our scientific editor, and (d) an In the Public Interest discussion on nursing.

Moreover, to elicit current physician opinion on nursing, we have a Vox Docs question for you on this subject. We ask you to answer and return this month's question. You can compare your answer in September with those of your colleagues.

Just as evolution and change have occurred and are occurring in medicine, so, too, they are happening in nursing. The past several decades have seen nurses move from being the handmaidens of medicine to where, if not partners in health care delivery, they are indispensable allied personnel. They have assumed

added responsibilities of significance. In specialized care areas, many nurses have acquired knowledge and skills which are indeed impressive.

The degree of dependence/independence the nurse should eventually assume is an honest topic for ongoing discussion. In this dialogue the element of quality care must be uppermost in our minds. Then factors of access, training and cost can be included.

It is always appropriate to praise when praise is due. Thus, it is my purpose in this August message to compliment Iowa's working nurses for their satisfactory performance — in our offices, in the hospitals, nursing homes, in public health capacities, in schools, factories, wherever. They contribute significantly to the delivery of health care in this state.

*William R. Bliss, M.D.*

William R. Bliss, M.D.

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## QUESTIONS - ANSWERS

KAY MYERS, R.N.  
DES MOINES, IOWA

### COMMENTS ON NURSING

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*Kay Myers is Executive Director of the Iowa Nurses' Association. She comments here on nursing manpower and other items of interest.*

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#### **What is the current nursing manpower picture in Iowa? What are the future prospects?**

According to the Iowa Board of Nursing, there were 27,260 nurses registered in Iowa on March 8, 1980. Of these, 15,510 were working full time. Figures are not available on part time employment during the same period. The number of registered nurses may decline after the first year of mandatory continuing education.

A 1980 survey by the Iowa Hospital Association indicates of the 102 hospitals that returned usable survey instruments, there were 6,502 full time equivalent (FTE) positions budgeted and that 522 of those were not filled. That is an average of approximately 5 unfilled positions per hospital. One should understand that it may take several individuals to fill one FTE

position and that the need for registered nurses in those hospitals may be substantially greater than the IHA figures indicate.

Statistics are unavailable as to the shortage of nurses in specialized or highly skilled levels of nursing, such as ICU or CCU; but communication with nursing directors in the state leads me to believe that such a shortage is very real, indeed.

Numerically, it would appear there are enough nurses registered in Iowa to fill the positions currently budgeted. If the RNs who are not employed and who indicated they are not seeking employment could be enticed back into the work force, and if those RNs were educationally prepared for re-entry into the work force, the nurse shortage might be alleviated.

However, the future appears bleak. The declining popularity of nursing as a life career has reduced the number of persons entering the profession. Grossly low remuneration for increasing responsibility, combined with unfavorable employment hours and excessive workloads, has led more nurses to "drop out." Lack of opportunity for control over their own practice has caused nurses to become discouraged.

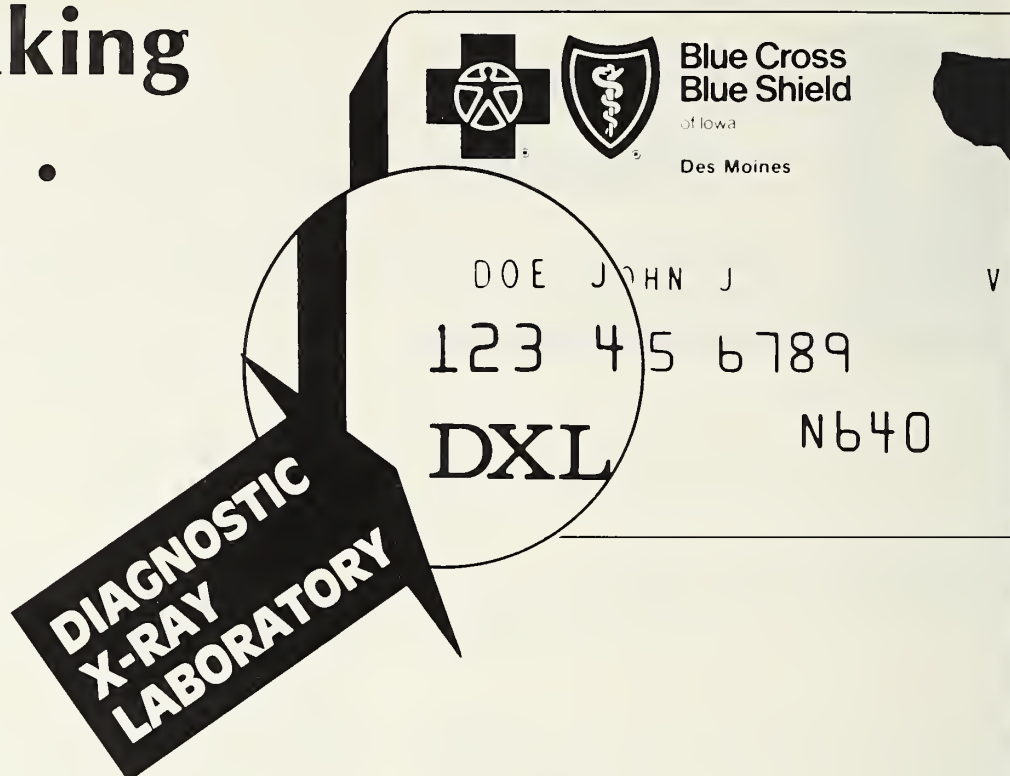
Although the number of graduates taking the state licensure examinations has increased from 1,075 in 1973 to 1,587 in 1979, the future status of available nurse power must be viewed in terms of the complexity of health care and the expanding role which nurses will play in the community, the school, and in settings other than acute care. Emphasis on well care for the consumer will result in increased use of nursing services and, therefore, an increased need for nurses.

#### **How would you characterize the working relationship between nurses and physicians today?**

Increasing recognition by the medical profession of the unique contribution nursing can make to health care delivery is one of the more encouraging factors as I view the future of

*(Please turn to page 336)*

# Speaking of . . .



## ✓ **Serving 500,000 Iowans**

All Blue Cross and Blue Shield subscriber groups with 2-25 members now join large groups in receiving diagnostic, x-ray and laboratory (DXL) coverage. More and more groups are adding the benefit every day.

## ✓ **Lowering Costs**

DXL makes payment for medically necessary diagnostic services on an outpatient basis, thus reducing costs to the patient, and continues speedy reimbursement for physicians and hospitals.



# THINGS YOU SHOULD KNOW

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## MEDICAL EXAMINERS

Cyrus L. Beye, M.D., Sioux City general surgeon, is the new chairman of the State Board of Medical Examiners. Dr. Beye succeeds John H. Rhodes, Sr., M.D., Pocahontas, who served the BME ably for 11 years. Jack L. Dodd, M.D., Ames psychiatrist, has been named to replace Dr. Rhodes; he'll serve a 3-year term. Renamed to 3-year terms have been Rosalie Neligh, M.D., Council Bluffs, and Alexander Ervanian, M.D., Des Moines.

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## ABOUT PA'S

Doctors employing physician's assistants must provide for alternate supervision if their PA's are to function while the physician is out of town. This position was affirmed by the Board of Medical Examiners at its July meeting. Provision exists for a physician to name an alternate supervisor on the original PA protocol, or this designation can be made in a subsequent letter to the BME. However, if the BME is not advised of an alternate supervisor the PA should not function while the employing doctor is away.

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## PICK 1981 SITE

The attractive Alameda Plaza Hotel (in the Country Club Plaza area of Kansas City, Missouri) has been chosen as the site for the 1981 IMS Scientific Session. The dates will be June 23-26. Half or more of the 20 Category I credit hours required for relicensure may be earned at this session -- with no registration charge to members.

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## OUT OF THE PAST

A 19th century doctor's office now exists at Living History Farms west of Des Moines. The 1870-vintage 2-room brick office of the late Dr. Robert B. Armstrong was moved from Polk City to LHF, thanks to a \$35,000 fund-raising effort of the Polk County Medical Society Auxiliary.

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## POLK/BLUE SHIELD

Policies and procedures of Blue Shield are being discussed by interested Polk County physicians and BS officials in a series of 4 summer (July/August) confabs at IMS Headquarters. The evening sessions are being hosted by Blue Shield to give Des Moines doctors a chance to express concerns and receive current and accurate information.

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## REYE'S SYNDROME

Posters with info on Reye's Syndrome have been sent to Iowa hospitals for display in emergency and outpatient departments. The posters note the signs of RS to aid in considering this diagnosis; early care is described and special treatment centers are identified. The Reye's Syndrome Foundation and the State Health Department are coordinating the program.

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## OKAY SURGERY CENTER

Iowa's first free-standing (non-hospital) surgery center received a 3/2 approval vote July 12 from the State Health Facilities Council. The facility is called the Surgery Center of Des Moines and is to be located near Iowa Lutheran Hospital. The proposal has been considered at some length on three occasions by the HFC.

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## IHSA BOARD SELECTION

A slightly revised procedure for naming members to the Iowa Health Systems Agency Board of Directors seems near approval as this is prepared. The new plan allows designated provider organizations to name their reps to the IHSA board. Included among these provider groups are the IMS, Iowa Foundation for Medical Care, Iowa Society of Osteopathic Physicians and Surgeons, Iowa Nurses' Association and the Iowa Hospital Association.

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## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

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### DO YOU KNOW FLORENCE?

Just as I hadn't, perhaps you, too, haven't known very much about Florence Nightingale. I still don't know as much as I'd like, but I happened to become acquainted recently with the story of this fabulous woman. She's an extremely interesting character, and although we generally think of her in relation to nursing education and practice, her impact on medical affairs was also great. There is a most readable brief biography of her within the volume *Eminent Victorians* by Lytton Strachey, now available in a Harvest/HBJ paperback.

You might know at once that hers would be a different sort of career, when you learn that she thought the voice of God told her she had an important mission to fulfill. That was in 1837 when she was only 17 years old. Her meteoric rise to fame and adoration occurred because of her work in a British Army Hospital in Turkey during the Crimean War of 1854-55. Essentially everyone in Britain knew of her dedicated labors in behalf of the sick and thought of her as the "Lady with the Lamp," a highly personal ministering angel. Perhaps she was or seemed to be a ministering angel, but what impresses me in the retrospective view of his-

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Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

tory is that she must have been a real administrative tornado. What she managed to achieve was on the basis of her ready and encyclopedic grasp of information, her ability to see the large picture, and her amazing effectiveness in leading others to do what she wanted. Her success and reputation from the Crimean duty gave her entrée to many powerful politicians and governmental agencies, and what she cajoled or bulldozed them into doing, from her status as a private citizen, was nothing short of amazing.

She started the first school of professional nursing at St. Thomas's Hospital in 1860, and for that she is generally acknowledged as the founder of modern nursing. But it seems she might also be counted the founder of modern hospital administration because her long-range impact on hospitals, from architecture to food service, to personnel, to sanitation and ventilation, was profound.

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*Florence Nightingale lived from 1820 to 1910. She has gained a saintlike perspective. Her biographers refer to her as a brilliant, highly motivated, temperamental woman. She accomplished much for others, and in a sense, little for herself.*

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She also held strong views about the educational process, feeling with particular vigor that written examinations were of little use in nursing — what mattered was to examine the actual performance at the bedside with the patient. She believed, "Only those can learn after middle age who have gone on learning up to middle age." She may not be 100% right about that, but maybe 98%. Like so many other things, education is a skill which, if practiced regularly, may more likely yield a good result.

Read about her if you can. Her impact on medicine, nursing and hospital administration clearly has made a big difference in our practicing world today. Even if you didn't know it, she's an important part of your roots.





## SCIENTIFIC ARTICLES

# The Use of Tetracycline

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*Contraindications for the use of tetracycline are emphasized in this summary report of a shared medical care evaluation study conducted by the Continuing Medical Education Committee of the Iowa Foundation for Medical Care.*

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THIS PATIENT CARE EVALUATION study was performed in late 1978. It addresses the appropriate use of tetracycline. Specific attention is given to contraindications for the drug. The Committee believes tetracycline should not be given (1) to children under 9 years of age, (2) to pregnant women, or (3) to persons with renal damage.

Staining of tooth enamel can result if tetracycline is given while the enamel is forming. This is not thought to be a risk after age 9. Likewise, if given during pregnancy, tetracycline can cause dental aberration in the developing fetus. Further, tetracycline has the ability to

produce or worsen renal failure; therefore, its safe prescription should involve prior knowledge of the patient's kidney function. Moreover, if tetracycline is taken with milk or food, the patient should be advised that its absorption is greatly reduced, and it is less likely to attain a therapeutic blood level. Another factor not widely understood is that when penicillin is administered with tetracycline, the activity of the penicillin may be inhibited. The simultaneous administration of more than two different anti-infectives is rarely necessary.

In the course of this study, the Committee drafted criteria relating to these several issues. The goal of the study is to renew awareness among the participants as to the proper use of tetracycline. A tetracycline study also has multidisciplinary audit possibilities involving physicians, pharmacists, and nurses.

#### PARTICIPATION IN THE STUDY

Twelve hospitals (9% of 134 Iowa hospitals) chose to participate in the tetracycline study. They ranged from 34 to 694 beds. The study included 197 physicians and 911 patients. There was documented pharmacy involvement in 7 studies and nursing involvement in 5

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Members of the Iowa Foundation for Medical Care Continuing Medical Education Committee are Charles Driscoll, M.D., Richard Caplan, M.D., Robert Pfaff, M.D., George West, M.D., Sam Williams, D.O., and Harold VanHofwegen, M.D. Assistance has been provided by Jennifer Cofer, M.A., of the IFMC staff.

THE SCANLON MEDICAL FOUNDATION/IOWA MEDICAL SOCIETY HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF AUGUST 1980.

studies. The age and sex of patients are as follows:

TABLE I  
AGE AND SEX OF PATIENTS

AGE			SEX		
<20	89	(10%)	Males	456	(50%)
21-39	207	(23%)	Females	455	(50%)
40-59	181	(20%)		911	100%
>60	434	(47%)			
	911	(100%)			

#### FINDINGS

The data are summarized in Table II.

#### CONCLUSIONS

Although limited in number of participating hospitals, this study identified several problems associated with the use of tetracycline. In 8 patients under the age of 9 (average age — 3 years), no justification was found for the use of tetracycline. Based on the number of hospitals in the sample, the projection can be made that approximately 100 Iowa children receive tetracycline unnecessarily each year and are put at risk for dental abnormality. It would also appear likely that further unnecessary expo-

sure is occurring *in utero*, since the 9% of acknowledged deficiencies probably include instances of inappropriate use as well as "only" documentation deficiency. Criterion 3 (*dealing with administration of tetracycline to patients with renal damage*) revealed many variations and 21% deficiencies. Two hospitals with high variation rates (57%) concluded they had 0% deficiencies. The following explanation was given by one hospital to justify so many variations: "Documentation is not needed to know that the procedure was done properly." We feel obliged to respond, "How then *can* we know?" An exception involving suspicion of Rocky Mountain Spotted Fever had been permitted, but was used in no instance.

Criterion 4 (*involving the administration of tetracycline on a relatively empty stomach*) revealed the highest number of variations (91%) and deficiencies (90%). Some interesting comments by study participants indicated that problems existed not only with outpatients, but also with inpatients. For example, nursing routines of "QID" administration of medication often coincided with meals, thereby producing an unintentional but consistent occasion for decreased absorption of the drug. Only 2 hospitals justified any of their variations on this crite-

(Please turn to page 346)

TABLE II  
FINDINGS OF TETRACYCLINE STUDY

Total Number Hospitals	12	Number Hospitals Meeting Criterion	Number Hospitals Reporting Variations	Number Hospitals Reporting Exceptions	Number of Patients in Variations from Criterion	Number of Variations Justified	Number of Deficiencies	Overall Deficiency Rate (Deficiencies — Total Patients in Study)	Comments
Total Number Patients	911								
Criterion									
1. 8 yrs. or less — 0%		7	5	0	9	1	8	1%	Patient ages were: 5, 2, 1, 4, 7, 2, & 8
2. Pregnant — 0%		0	12	0	109	30	79	9%	Failure to inquire or test for pregnancy must be assumed in absence of adequate documentation.
3. Renal Insufficiency — 0%		0	12	0	280	91	189	21%	40 patients from one hospital were given a blanket justification in the variation analysis, so true deficiency rate is higher.
4. Empty stomach — 100%		0	12	N/A	829	9	820	90%	6 hospitals showed 100% variation; overall deficiency rate was 85%.
5. TCN + more than one other anti-infective drug — 0%		5	7	N/A	9	5	4	<1%	The justified variations were primarily instances of bowel prep prior to surgery.



# Aetna has returned over \$1 million in dividends to Iowa physicians.

Since the inception of the Iowa Medical Society Liability Insurance Program three years ago, Aetna has returned over \$1 million to Iowa physicians.

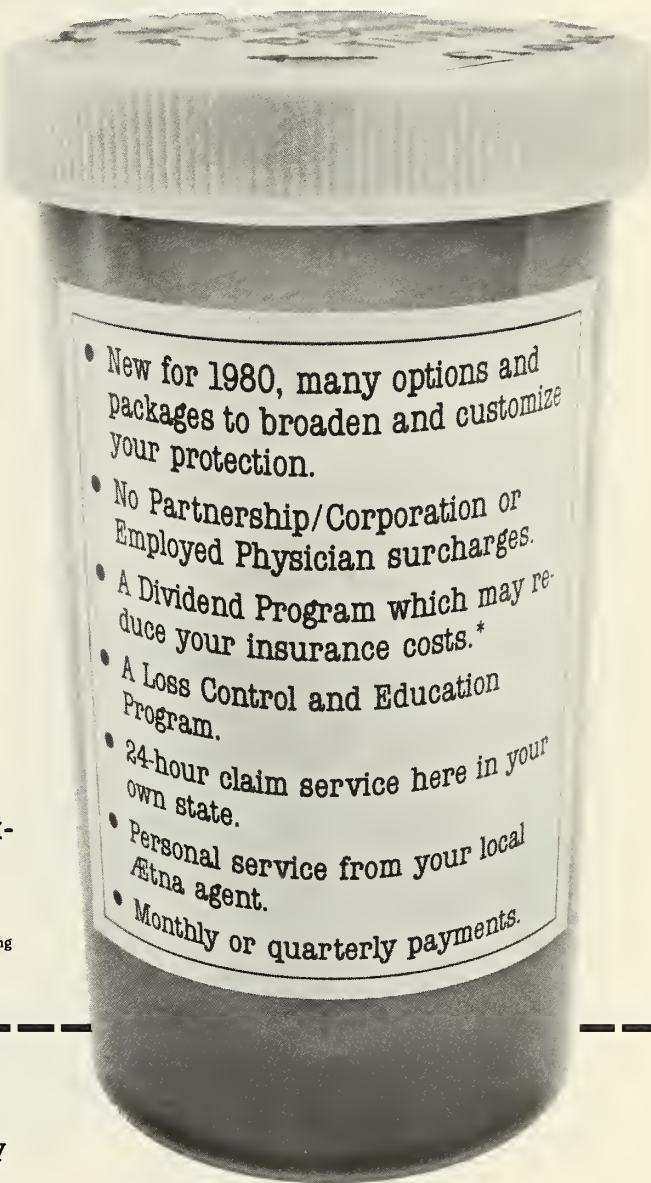
This year, physicians participating in the program will share in a half million dollar dividend.

Not only that, but coverages are up. (See label on right.)

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\*Dividends cannot be guaranteed prior to being declared by Aetna's Board of Directors.

- 
- A large glass jar with a white lid, resembling a jar of jam or preserves, is positioned on the right side of the advertisement. A white label is wrapped around the middle of the jar, listing the benefits of the Aetna insurance program. The text on the label is printed in a serif font and is slightly curved to follow the shape of the jar.
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## QUESTIONS/ANSWERS

*(Continued from page 327)*

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nursing. I see a mutual respect emerging as each of the professions' knowledge and skill expands. For instance, pediatricians and pediatric nurse practitioners (PNP's) are practicing in Iowa as colleagues, as the University of Iowa's PNP program has flourished.

Physicians have acknowledged the need and the desire to collaborate on a professional level. The IMS/INA Joint Practice Committee is one example of physicians and nurses cooperating to define and refine those "gray areas" where nursing and medicine overlap.

Of course, attitudinal change is always difficult. The attempted advancement of one profession may threaten the parameters of another. However, I am convinced that Iowa physicians and Iowa nurses can work together to provide optimal health care to the population in the state.

### **Has this relationship changed noticeably in the past 10 or 15 years?**

Nursing education has historically been based on apprentice type training provided in a hospital setting in exchange for service. Changing concepts of the roles of men and women have altered this type of education. Nursing education now emphasizes provision of opportunity to learn independent decision-making based upon increased knowledge and acceptance of one's own accountability. In doing so, nursing education has changed the picture of the nurse as the handmaiden of the physician to the decision-maker and risk-taker of today.

This alteration in relationship has allowed both the professions of medicine and of nursing to establish standards of care that continue to benefit the public.

**The movement of nurses into greater specialization and more responsibility, both in the office and the hospital, has occurred nationally in the decade of the 70's. Is this good and do you see it continuing?**

Yes, this is good, and yes, I see this continuing.

The complexity of health care, the knowledge explosion of the past decade have forced nurses, just as they have forced members of other health care professions, to define their areas of practice with more preciseness. "A nurse is a nurse is a nurse" is no longer true. Continued education and continuing education have become requirements for any health care professional who expects to make a contribution to the consumers of Iowa.

I believe it is significant that you included the phrase "more responsibility" in your question, for with responsibility comes accountability. Nurses today accept that accountability. The Iowa Board of Nursing is in the process of establishing rules and regulations that would define minimum standards of practice for RN's and LPN's. The proposed standards are patterned after the nursing process (not unlike the scientific process) and emphasize nurses' legal obligation to accept accountability for their own actions.

### **In line with the preceding question, do you see a new role coming for the nurse?**

Perhaps the phrase "new role" is inappropriate. The role of the nurse has always been to care for the patient, to act as his or her advocate, and to coordinate his or her care 24 hours a day.

The way in which nurses are beginning to fill this role is changing. Nurses have begun to realize that expanded knowledge is required for their role and that through assertive and confident behavior, the role of the RN can be fulfilled.



# Owning a Saab gives you something to say to the man who owns a Ferrari, a Jaguar or a Porsche.

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# Coronary Artery Bypass Surgery At a VA Medical Center

BERKELEY BRANDT, III, M.D., L. F. HIRATZKA, M.D.,  
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*Results of the VA cooperative study have been criticized because of the high operative mortality for coronary artery bypass (5.6%). Reported here are 117 consecutive patients who underwent coronary artery bypass in 1978 at the Iowa City VA. The analysis of these patients suggests that using current techniques, operative mortality for coronary artery bypass in a veteran population should be low.*

---

ALTHOUGH IT WAS hoped the Veterans Administration collaborative study would answer many questions on long-term results and indications, these issues are still debated in the literature.<sup>1</sup> One criticism of the VA cooperative study has been the high operative mortality rate (5.6%)<sup>2</sup> for patients with stable angina pectoris. To document our recent operative mortality rate using current techniques, we have reviewed all patients from the Veterans Administration Hospital, Iowa City, Iowa, who underwent coronary artery bypass surgery in 1978.

## METHODS AND MATERIAL

117 consecutive patients underwent coronary artery bypass in 1978. All patients included in the study had coronary artery bypass either alone or in addition to valve replacement. 22 patients had a concomitant procedure of which 10 were valve replacements, 6 were left ventricular aneurysm resections, 5 were carotid endarterectomies and one was a closure

of an atrial septal defect. 6 reoperations were included in this group. 3 were reoperated on for recurrent angina following coronary artery bypass and 3 had re-replacement of a prosthetic valve (Table I).

The patients ranged in age from 40 to 75 years with a mean age of 57 years. Risk factors included hypertension in 27%, a positive family history in 56% and hyperlipidemia in 17%. 72% were smokers. These results are summarized in Table II. 79 patients (68%) were considered to have unstable angina by the referring cardiologist. 71 patients (61%) had had a prior myocardial infarction. 25 patients (21%) had >50% narrowing of the left main coronary artery. 28 patients had an elevated end-diastolic pressure and 16 patients had ejection fractions of less than 30%. These results are summarized in Table III.

Operative technique was essentially the same in each case. General anesthesia was induced with strict attention to the double product (heart rate times systolic blood pressure). The proximal anastomoses were done prior to establishing cardiopulmonary bypass and bypass was then established with a single

*(Please turn to page 340)*

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The authors are associated with the Veterans Administration Hospital, Iowa City, and the Division of Thoracic and Cardiovascular Surgery, Department of Surgery, University of Iowa Hospitals and Clinics, Iowa City, Iowa 52242.



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**Description:** Each Anusol-HC Suppository contains hydrocortisone acetate, 10.0 mg; bismuth subgallate, 2.25%; bismuth resorcin compound, 1.75%; benzyl benzoate, 1.2%; Peruvian balsam, 1.8%; zinc oxide, 11.0%; also contains the following inactive ingredients: dibasic calcium phosphate, and certified coloring in a hydrogenated vegetable oil base.

Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg; bismuth subgallate, 2.25 mg; bismuth resorcin compound, 1.75 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

**Indications:** Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, anal fissures, incomplete fistulas and relief of local pain and discomfort following anorectal surgery.

Anusol-HC Cream is also indicated for pruritus ani.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol<sup>®</sup> Suppositories or Ointment.

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**Warnings:** The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

**Precautions:** Symptomatic relief should not delay definitive diagnoses or treatment.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued and appropriate therapy instituted.

In the presence of an infection the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled.

Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Anusol-HC is not for ophthalmic use.

**Dosage and Administration:** Anusol-HC Suppositories — Adults: Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at

bedtime for 3 to 6 days or until inflammation subsides. Then maintain patient comfort with regular Anusol Suppositories.

**Anusol-HC Cream — Adults:** After gentle bathing and drying of the anal area, remove tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain patient comfort with regular Anusol Ointment.

**NOTE:** If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

**How Supplied:** Anusol-HC Suppositories — boxes of 12 (N 0047-0089-12) and boxes of 24 (N 0047-0089-24) in silver foil strips with Anusol-HC W/C printed in black.

Anusol-HC Cream — one-ounce tube (N 0047-0090-01) with plastic applicator.

Store between 59°-86° F (15°-30° C).

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2/80



(Continued from page 338)

venous cannula and a left ventricular vent. All cases were done with systemic hypothermia and hyperkalemic hypothermic arrest. Cold potassium arrest solution containing 20 mEq of potassium chloride per liter was infused into the aortic root initially and reinfused at 20 minute intervals. A single cross clamp period was used. Myocardial temperature was not measured.

There were 2 early deaths, defined as within 30 days of operation in the coronary bypass patients. None of the patients who had valve replacement and coronary bypass died. One of the early deaths was secondary to an arrhythmia on the second postoperative day and the other death was associated with low cardiac output and sepsis on the 14th day. There were 2 late deaths in the bypass group. There were a total of 7 documented myocardial infarctions

TABLE I  
SUMMARY OF PROCEDURES PERFORMED  
(All 117 patients had caranary artery bypass)

Sequential grafts	54	
Right caranary endarterectomy	14	
Average number of grafts	3.3	
	Na. of pts.	Na. of grafts
Concamitant Procedures		
Aortic valve replacement	7	2.3
Mitral valve replacement	3	2.3
Dauble valve replacement (Aortic and mitral)	1	2
Caratid endarterectomy	5	3.8
Left ventricular aneurysm	6	4
Atrial septal defect	1	1
Reoperation		
Valve replacement	3	
Caranary artery bypasses	3	

TABLE II  
RISK FACTORS IN 117 PATIENTS UNDERGOING CORONARY  
ARTERY BYPASS

Age range 40-75; mean 57.2		
Hypertension	32	27%
Hyperlipidemia	20	17%
Diabetes	11	9%
Smokers	84	72%
Positive family history	66	56%
Life-style	14	12%
Obesity	25	21%

TABLE III  
CARDIAC EVALUATION  
NEW YORK HEART CLASSIFICATION

I 0	II 20	III 57	IV 40
Unstable angina		79	68%
Prior MI		71	61%
Left main disease		25	21%
L main with RCA disease		19	16%
Ejection fraction $\leq$ 30%		16	14%
LVEDP $>$ 15 prior to angio		28	24%
Prior operation		6	5%

(6%). None of these patients required prolonged hospitalization and all were discharged by the 8th postoperative day. 3 patients had only enzyme elevation as indication of infarction and one patient had only EKG changes without enzyme elevations. Atrial fibrillation and/or flutter occurred in 16% of our patients. 2 patients required cardioversion. The remainder were controlled with digitalis. Premature ventricular contractions requiring treatment were present in 17% of our patients. These results are summarized in Table IV. In those patients who were available for followup, there was excellent clinical improvement. Of 87 patients followed for more than 6 months, 80 (92%) had improved by at least one functional class and 84 (97%) were angina-free. In those patients who had preoperative graded exercise tests, 18 of 20 had a negative test postoperatively. In 18 patients who were either Class IV or unstable Class III, and therefore did not have

TABLE IV  
RESULTS

	Early	Late
Mortality Rate		
Caranary bypass only	2 (1.7%)	2 (1.7%)
CABG + valve	0	0
Infarction Rate		
CPK-MB elevation	3	
EKG changes	1	
Bath EKG & enzymes	3	
	7 (6%)	
Arrhythmias		
Atrial flutter-fibrillation	19 (16%)	
Premature ventricular contraction requiring treatment	20 (17%)	



exercise tests preoperatively, all 18 were negative postoperatively. These results are summarized in Table V.

#### DISCUSSION

Aortocoronary bypass grafting is designed to relieve angina. It is an effective operation and there is little debate regarding the indications for operation in severely symptomatic patients.<sup>3</sup> Whether the prolongation of life is an extra bonus that can be added to the benefits of the operation is still unanswered. In the subgroup of patients with left main coronary artery disease, most authors accept the results of the VA cooperative study which shows a clearly superior survival curve for the surgically treated group.<sup>4</sup> In those patients with stable angina pectoris, the issue is not as clear. Based on the clinical improvement in patients and the low operative risk in this series, we believe surgical treatment is a reasonable alternative for the patient with symptomatic disease. The majority of our patients (68%) had unstable angina and 61% had had a previous myocardial infarction. 16 patients had an ejection fraction of less than 30% and 6 patients had had previous cardiac surgery. Many of these patients would not have been considered surgical candidates in the period during which the VA study was conducted. However, using current operative techniques and improved myocardial preservation in this group of patients, the operative mortality was only 1.7%.

#### NEW UR OPTION

Successful testing of the SI/IS approach to utilization review was reported in the July issue of the Iowa Foundation for Medical Care Newsletter. The favorable outcome of a pilot project undertaken among 25 Iowa hospitals is prompting the IFMC to offer the concept as an alternative UR method.

The acronym SI/IS stands for severity of illness/intensity of service and differs from the

TABLE V  
FOLLOWUP — GRADED EXERCISE TEST (TREADMILL)

Pre-op	Post-op	
	Negative	Positive
Positive GXT	20	18
Class IV	10	10
Unstable Class III	8	8

This study was not designed to evaluate long-term benefits, but early followup confirms the good results of others both in terms of symptomatic relief and improvement in exercise tolerance. These results indicate this is a very effective procedure when performed for the indications for which it was originally designed. Whether additional benefits of prolongation of life will be realized cannot be answered to everyone's satisfaction at this time. However, we continue to be enthusiastic about the operation and continue to operate on patients with symptomatic angina.

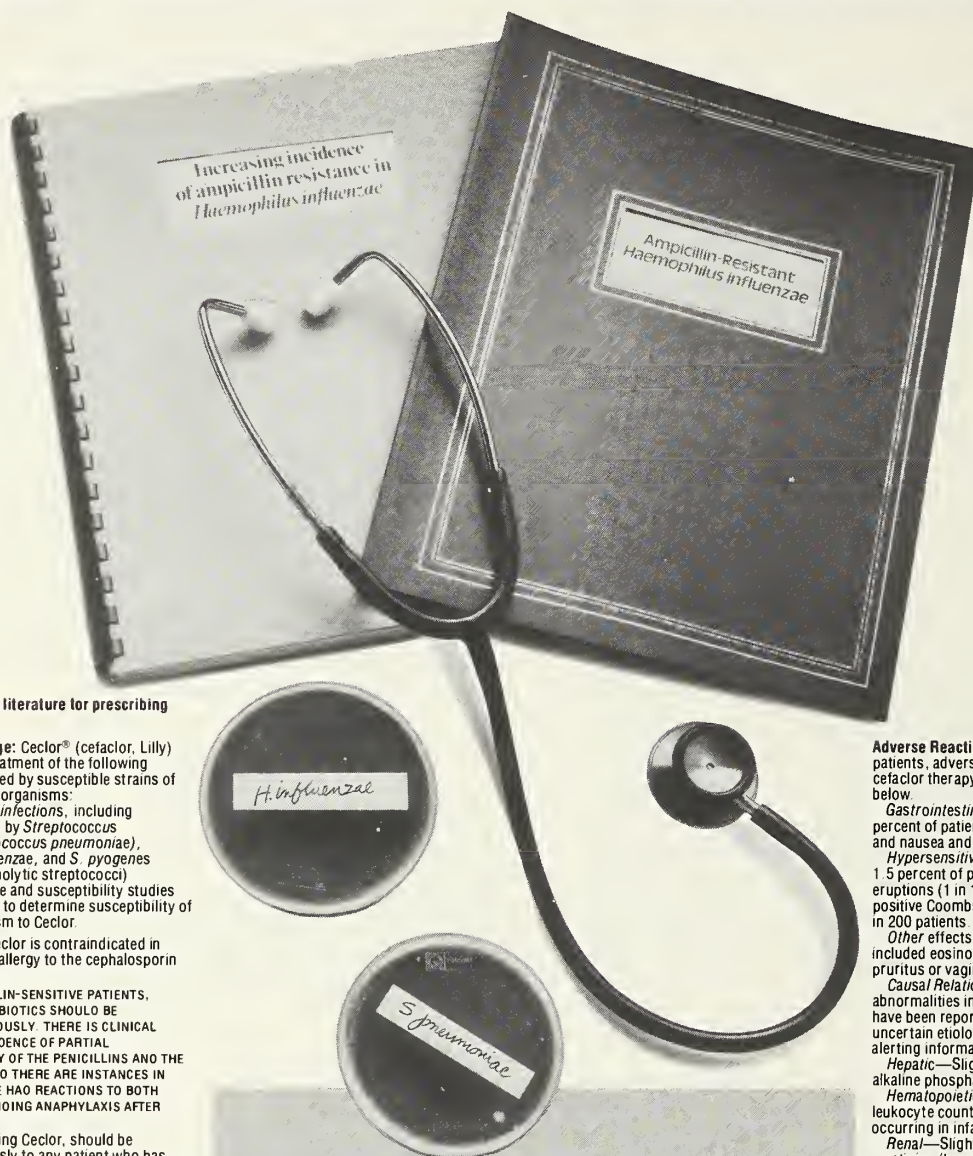
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method of utilization review currently used in Iowa. The current system relies on diagnosis and length of stay norms to screen patients. SI/IS establishes criteria that measure severity of illness and intensity of services provided. It consists of generic criteria that can be applied to all patients regardless of diagnosis, problem or condition, and a set of criteria for 14 individual body systems or categories of care.

Twenty-four of the 25 Iowa hospitals in the pilot study are reported planning to continue using SI/IS.

# An added complication... in the treatment of bacterial bronchitis\*



**Brief Summary.**  
Consult the package literature for prescribing information.

**Indications and Usage:** Cefclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

*Lower respiratory infections*, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

**Contraindication:** Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

**Precautions:** If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

**Usage in Pregnancy:** Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

**Usage in Infancy:** Safety of this product for use in infants less than one month of age has not been established.

## Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis\*—are sensitive to treatment with Cefclor.<sup>1-6</sup>

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.<sup>7</sup>

# Cefclor®

## cefaclor

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**Adverse Reactions:** In clinical studies in 1493 patients, adverse effects considered related to cefaclor therapy were uncommon and are listed below.

*Gastrointestinal* symptoms occurred in about 2.5 percent of patients and included diarrhea (1 in 70) and nausea and vomiting (1 in 90).

*Hypersensitivity* reactions were reported in about 1.5 percent of patients and included morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occurred in less than 1 in 200 patients.

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory tests results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[070379R]

\* Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

**Note:** Cefclor® (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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000482



# Office Detection Of Vulvar Malignancy

SAMUEL LIFSHITZ, M.D., JOHN E. SAVAGE, M.D.,  
and JAMES A. ROBERTS, M.D.

Iowa City, Iowa

VULVAR CARCINOMA is the fourth most common female genital malignancy. It is exceeded in frequency by cervical, endometrial and ovarian cancer. While progress has been made in the early detection of cervical and endometrial carcinoma with a concomitant decrease in the number of deaths, there continues to be a long period of delay in detecting vulvar carcinoma. Since cancer of the vulva most frequently occurs in older women, this delay has been attributed to the reluctance of patients to submit to pelvic examination. In published reports,<sup>1</sup> the average delay is 10 months from the time symptoms begin until the patient consults a physician. In addition to patient delay, there is frequently a prolonged physician delay in establishing the diagnosis of vulvar cancer. During this time, ointments and creams and other ineffective remedies are often employed.

The primary care physician plays a major role in the early detection of vulvar carcinoma and should be familiar with the tools and procedures necessary in establishing this diagnosis. This paper will outline the procedures at hand for the early detection of vulvar malignancy.

## NATURAL HISTORY

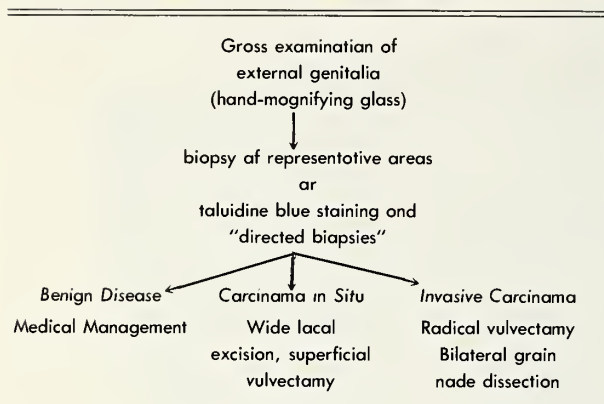
In its natural course vulvar neoplasia progresses from dysplasia through intra-epithelial neoplasia to invasive carcinoma, as an inter-related function of time and the status of the patient's immunologic response. Based on historical data,<sup>2</sup> vulvar dysplasia and intra-epithelial carcinoma (carcinoma-in-situ) may be present for many years before invasive disease develops.

When the dysplastic epithelium breaks through the basement membrane, invasive vulvar carcinoma develops. An invasive lesion may extend locally for a considerable period of time before metastases occur (Figure 1). As the lesion extends, the incidence of lymph node metastasis increases and survival potential decreases progressively. Therefore, the major prognostic factors are lesion size and regional (inguinal) lymph node metastases. Once lymph node metastasis develops, the course of the disease becomes much more rapid and the prognosis correspondingly poor.

The etiology of vulvar neoplasia is unclear. Chemical carcinogens, infectious agents and local environmental conditions have all been implicated as causative factors. It has also been speculated that treatment of herpetic vulvitis by photodynamic inactivation could permit the development of neoplasia at a later date.<sup>3</sup> An "at risk" population for vulvar malignancy can be identified. Vulvar cancer most frequently occurs in postmenopausal women, its peak incidence is in women 60 years old. At least one-third of patients with vulvar cancer have chronic vulvitis, this vulvitis may be venereal or nonspecific in origin or may be one of the dysplastic lesions of the vulva. These lesions

The authors are associated with the Department of Obstetrics and Gynecology, University of Iowa College of Medicine. Drs. Lifshitz and Roberts are assistant professors; Dr. Savage is a clinical fellow in gynecologic oncology.

TABLE 1  
DETECTION OF VULVAR NEOPLASIA



are characterized by increased cellular activity and cellular aberration.

#### DIAGNOSIS

The early detection of vulvar carcinoma by means of appropriate and timely performed biopsies constitute the single most important factor in the improved prognosis of vulvar neoplasia. Careful examination of the vulva should be part of the physical and pelvic examination of every woman regardless of age. We have seen patients with invasive vulvar carcinoma as young as 20 and as old as 94. In the last 8 years at the University of Iowa Hospitals we have treated 7 patients with invasive vulvar carcinoma under 40 years of age. Furthermore,



Figure 1. Invasive squamous cell carcinoma involving the left labia and urethral meatus.

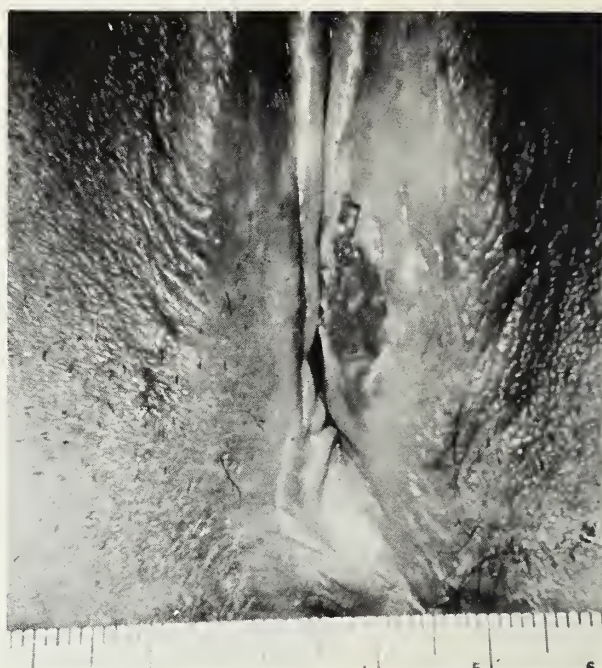


Figure 2. Invasive carcinoma of the vulva in a 20 year old nulligravida, presenting as a 2.5 cm superficial ulceration on the left labia.

the incidence of carcinoma-in-situ of the vulva seems to be rising, especially in young females.<sup>4</sup>

The vulva constitutes the most accessible area of the female genitalia for examination. The entire vulva should be inspected carefully under good lighting, noting asymptomatic masses, pigmented lesions and ulcerations (Figure 2). A hand magnifying glass is extremely useful in evaluating small lesions. By scanning the vulva under 2× or 4× magnification, it is possible to discern subtle changes in surface texture, pigmentation, and keratine formation, easily missed by the naked eye. The use of the colposcope is time consuming and usually ineffective in the evaluation of the vulva. It has been calculated that the vulva encompasses a surface area of over 200 cm,<sup>2</sup> and such an extensive area makes the use of the colposcope impractical.

*Any visible vulvar lesion, whose diagnosis is not immediately obvious should be biopsied without hesitation* (Table 1). Vulvar biopsies are easily performed with little trauma or discomfort to the patient. Hospitalization and general anesthesia are not only unnecessary but wasteful of financial resources. A virtually painless proce-





Figure 3. Vulvar biopsy tray.

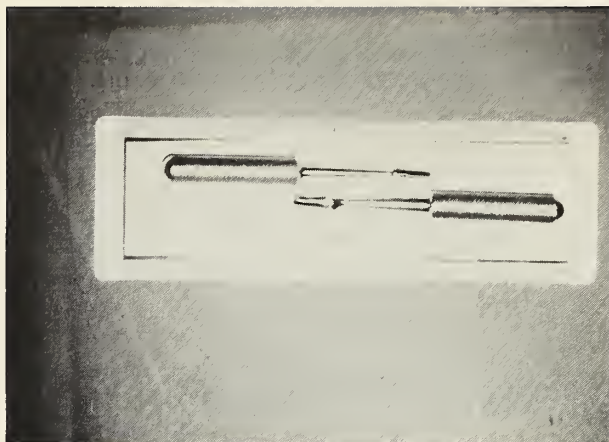


Figure 4. Keyes dermal punch.

cedure can be performed in the office under local anesthesia in a few minutes.

Vulvar biopsies can be accomplished with complete safety. A biopsy tray should be available in order to accomplish the procedure with ease (Figure 3). The tray should include: a 10 cc syringe, 18 and 25 gauge needle, 4 x 4 sponges, mouse-tooth forceps, scissors, #15 knife blade, a small needle holder, 3-0 chromic catgut and a Keyes dermal rotating punch. This instrument is frequently used by dermatologists. It is a device with a sharp bottom circular edge and an upper handle that works like a corkborer (Figure 4).

The technique of vulvar biopsy is simple. Surgical skin preparation is unnecessary. The biopsy area should be infiltrated with local anesthesia, and then the cutting edge of the

Keyes punch is placed over the biopsy site. By rotating the instrument while applying gentle pressure against the vulva, a rounded plug of skin is obtained, this is then lifted with forceps and its base is cut with scissors. The skin defect is then simply closed with a single figure-of-eight suture. Complete healing usually takes place within several days.

Large ulcerative lesions should be biopsied at the periphery of the lesion to obtain both normal and abnormal appearing tissue. Excisional biopsy is indicated for pigmented lesions, cysts and small solid tumors. This can also be accomplished under local anesthesia in the office using a #15 knife blade and closing the defect with interrupted sutures of 3-0 chromic catgut.

The biopsy specimens should be placed in an

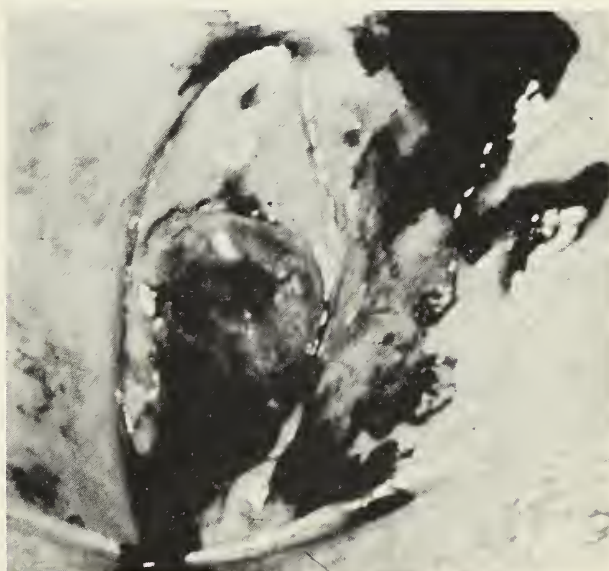


Figure 5. Toluidine blue staining. Carcinoma-in-situ of the vulva, before (a. left) and after (b. right) toluidine blue staining.

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## OFFICE DETECTION OF VULVAR MALIGNANCY

(Continued from page 345)

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upward position on small piece of cardboard and into a bottle of fixative. This will enable the pathologist to orient the specimen properly.

### TOLUIDINE STAINING

Toluidine blue staining was first developed by Collins.<sup>5</sup> It is an extremely valuable tool to properly "direct" a vulvar biopsy. Toluidine blue is a nuclear stain that is taken up by and remains fixed to areas where superficial nuclei are present. Such areas are usually ulcers or areas where nuclear material has been abnormally retained in the superficial keratin layer (parakeratosis). The technique of toluidine blue staining consists of painting the entire surface of the vulva with a generous amount of 1% toluidine blue dye in an aqueous solution. After allowing a few minutes for the dye to become fixed to the nuclei, the vulva is rinsed lightly with 1% acetic acid solution. Unfixed

dye will wash off easily from the normal keratin covered skin (Figure 5). Vulvar biopsies can then be directed to the areas that retain the dye. It should be kept in mind that the vagina normally has no keratin layer and therefore it will stain with a light blue color.

### TREATMENT

Once the diagnosis of vulvar neoplasia has been established, appropriate treatment can be instituted. In carcinoma-in-situ, wide local excision or superficial vulvectomy (skinectomy) offers the best results. In invasive vulvar carcinoma, staging procedures must be carried out by physical examination, radiologic and endoscopic examinations before radical surgical treatment is instituted.

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## THE USE OF TETRACYCLINE

(Continued from page 334)

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rion, and these justifications resulted when it was discovered the pharmacist was regularly placing an adhesive sticker on prescriptions directing no food or milk with the drug.

Criterion 5 (*dealing with excessive simultaneous use of anti-infective drugs*) showed few problems, with an average deficiency rate in 7 hospitals of .6%. The number of patients is small, but the general problem of appropriate use of anti-infective drugs warrants continued attention.

### RECOMMENDATIONS

This audit involved limited criteria and was performed in only 12 hospitals. All 12 hospitals planned some action as a result of the findings, 10 of the 12 had already implemented the action effort, and 11 of 12 had a clear plan for follow-up in relation to the deficiencies. These plans thus grow close to the optimal figure of

100% response to demonstrated needs for action and follow-up. The Committee believes, however, that enough problems were identified, and a high enough rate of deficiencies was acknowledged by participating hospitals, to warrant educational efforts by medical staffs of all Iowa hospitals. The points to reiterate and monitor include these:

*Unless special justification exists, one should not administer tetracycline:*

- to a patient younger than 9 years;
- to a woman of childbearing age until history or laboratory data, documented in the record, permits a conclusion of non-pregnancy;
- to anyone until history or laboratory evidence, documented in the record, permits a conclusion of normal renal function;
- to anyone orally except on an empty stomach; nor
- to anyone along with penicillin, nor with more than one other anti-infective drug.





## COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### TO A NURSE

There are many ways I could extoll the virtues of nurses. One could comment on the devotion to patients in the intensive care units where the life of the patient hangs upon a thin thread stabilized by the watchful care of the nurse. There are the devoted nurses who do

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*"What a blessed thing it is to make sick people happy in their bed, and never mind one's self as long as one can do a service."* — Charles Dickens: Martin Chuzzlewit

---

general duty in the hospital day-after-day with allegiance to their profession above their own personal pleasures. There are the office nurses who serve as liaison between the physician and his patients. There are the public health nurses who work with the poor and unfortunate. There are nurses in the mission fields. On and on I could enumerate the various classes of the nursing profession, and elaborate on their skills and devotion to duty.

Yet, I must pay tribute to another nurse; one who has toiled long and lovingly to provide the ability for one to become an physician. This particular nurse has been known to me since I was an undergraduate. She was a student nurse in the hospital which employed me

while I went to college. For my labors at the hospital, I received my board and room, a few dollars a month, and the good fortune to have met the nurse to whom I dedicate this bit of editorial mélange.

Numerous years of work as an office nurse, as a nurse in a foundling home, and long nights on a hospital ward and then providing a home enabled me to finish my medical education, as well as complete an internship and residency. During the early years of practice, she continued to labor until my income was sufficient and she could retire from active nursing. Yet,

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*"The picture of Miss Florence Nightingale, during the night, going through the vast wards of the military hospitals with a small lamp in her hand, noting the condition of each sick man, will never be obliterated from the hearts of the men who were the objects or the witnesses of her admirable beneficence, and the memory of it will be engraven in history."* — Henri Dunant: The Origin of the Red Cross

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she continued on as a good mother and wife, unselfishly providing the love and strength that unites a family with strong bonds. She has held her small nightingale lamp steadfast through long nights and difficult days. They have not been all happy days. There have been tears; there have been sad moments; there have been trials and tribulations; all on the shoulders of a woman who had to face life's realities too early in her own life when her parents died during her teen years.

Thirty-six years of togetherness seems a long time to many, with many marriages now seemingly so short-lived. Thirty-six years seems a short time in reality because they have been full years; and there will be many more. As our children mature and go their own way, I am sure we grow closer. There will be many more happy times; yes, even more tears and tribulations, but they will be experiences we shall cherish.

Thus, begging my readers indulgence, I dedicate this issue of the JOURNAL to all nurses, but especially to the one nurse of my life, Jeanette. — M.E.A.

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# DRUG THERAPY REVIEW



## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

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REYNOLD SPECTOR, M.D., Editor

*Editor's Note — In recent years knowledge about rational drug therapy has expanded significantly. This series of articles will provide the practicing physician with concise, topical reviews of drug therapy.*

### DRUGS IN PREGNANCY AND LACTATION

Two per cent of all infants born in the United States exhibit gross congenital anomalies. Of these, an estimated 5-10% are caused by maternal exposure to teratogens, the remainder a result of genetic abnormalities and/or unidentified causes.<sup>1</sup> Pregnant women are exposed to a staggering number of drugs, many of which are potentially teratogenic. At the University of Edinburgh, 97% of 1,369 women took prescription drugs and 65% took nonprescription drugs during pregnancy.<sup>2</sup>

When followed to delivery, a group of 156 gravid women from a middle to high socioeco-

nomic, private obstetric service in the southwestern United States ingested between 3 and 29 drugs (mean of 10.3) during pregnancy, excluding vitamins, iron, environmental pollutants, or anesthetic agents required for labor and delivery.<sup>3</sup> A prospective study of 240 pregnant women prior to delivery revealed a mean exposure to 3.7 "potentially teratogenic agents" (including X ray, environmental pollutants, and drugs) in the first trimester alone. Of these, an average of 3.1 exposures per mother were drugs considered avoidable and unnecessary.<sup>4</sup>

In view of the magnitude of drug consumption by pregnant women (both prescription and nonprescription medication) and the desire to decrease teratogenic exposure, the conscientious physician frequently faces difficulty in prescribing medication. Clearly, some drugs are teratogenic and contraindicated in pregnancy. But a wholesale avoidance of medication means a denial of needed therapy to many pregnant women.

A rational approach to prescribing involves the weighing of risk versus benefit based on the limited information which is available. This information comes from a combination of epidemiologic studies, case reports, and animal research which may be difficult to extrapolate to the human infant. Individual susceptibility may vary because of genetic predisposition, interaction of environmental influences, or drug dosage. It is recognized that the critical period of teratogenesis corresponds to the first trimester, the phase of organ differentiation.

#### DRUG THERAPY DURING PREGNANCY

A recent review by Howard and Hill<sup>5</sup> outlines much of the current information regarding drugs in pregnancy. Drugs which are contraindicated, or are of uncertain risk in the first trimester, are listed below. (Refer to the original article for reference information regarding specific drugs as well as documentation of teratogenicity.)

*Risk outweighs benefits:* thalidomide, serotonin, phenmetrazine, tolbutamide, chlorpropamide, streptomycin, tetracycline, iodine, chloroquine, methotrexate, meclizine, LSD, amphetamines, trimethadione, paramethadione, diphenylhydantoin (in some cases), sex steroids, diethylstilbestrol, ethanol, bishydroxycoumarin, sodium warfarin, podophyllin (in laxatives), acetazolamide.

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This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.



*Risk versus benefit uncertain:* gentamicin, kanamycin, lithium, benzodiazepines, thiouracil, propothiouracil, barbiturates, cannabis, quinine, Bactrim/Septra, diazoxide, cytotoxic drugs, pyramethamine, metronidazole, EDTA, Atromid S.

Drugs which may, in the *second or third trimester*, produce undesirable consequences in the fetus and neonate include: amphetamines, aspirin, indomethacin, barbiturates, diphenylhydantoin, primidone, benzodiazepines, chloramphenicol, nitrofurantoin, sulfonamides, tetracyclines, chlorpropamide, tolbutamide, curare, local anesthetics, halothane, cytotoxic drugs, corticosteroids, diazoxide, propranolol, methyl dopa, reserpine, thiazides, ganglionic blockers, lithium, Placidyl, narcotics, narcotic addiction, thiouracils, iodides, quinine, warfarin.

Drugs not appearing in the above paragraphs should not necessarily be presumed safe. There may simply be insufficient information available regarding teratogenicity or undesirable fetal effects. Such is the case with digoxin. Abundant research has detailed fetal tissue levels of the drug but virtually nothing is known about the *effects* on the fetus of transplacentally administered digoxin.<sup>6</sup> A careful consideration of maternal indications for the drug may greatly influence the risk versus benefit ratio.

Drugs taken during pregnancy must be carefully documented in the medical records of both mother and infant. The usual drug history identifies only 30% of the actual drug exposures to the fetus.<sup>7</sup> Only through a concerted physician effort to obtain a complete drug record will a better understanding of the complexities of drug teratogenicity come about.

#### DRUG THERAPY DURING BREASTFEEDING

Renewed enthusiasm in breastfeeding has resulted in increased interest in medications which may be safely prescribed to the lactating woman. Most drugs which reach the maternal circulation are excreted in breast milk but in amounts which could be considered inconsequential to the breastfeeding infant. Available data consists largely of drug levels in the breast milk, with little regard for the quantity of drug which reaches the systemic circulation of the infant following ingestion of the drug-contaminated milk. Recent reviews are referenced for more detailed analysis.<sup>8, 9</sup> Generally speak-

ing, those drugs which are contraindicated when breastfeeding include: antineoplastics, antithyroids, certain anticoagulants, corticosteroids (systemic), ergots, reserpine, heroin, metronidazole, alcohol (excess). — Robert D. Shaw, M.D., Neonatology Fellow and Robert J. Roberts, M.D., Ph.D., Professor, Departments of Pediatrics and Pharmacology.

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## June 1980 Morbidity Report

Disease	June 1980 Total	1980 ta Date	1979 ta Date	Most June Cases Reported From These Counties
Amebiasis	4	7	57	Boone
Brucellasis	0	4	2	
Chickenpox	308	7379	7001	Jahnsan, Polk, Des Moines
Cytomegalovirus	2	12	6	Johnson, Winneshiek
Eaton's Agent infection	2	9	28	Butler, Polk
Encephalitis, virol	1	8	10	Morsholl
Erythema infectiosum	9	369	1071	Johnson, Linn
Gastroenteritis (GIV)	255	13230	12803	Jahnsan, Lee, Palk, Scatt
Giardiasis	4	12	18	Lynn
Hepatitis, A	11	79	98	Palk, Scatt, Jahnsan
Hepatitis, B	9	44	48	Polk
type unspecified	8	41	26	Palk
Herpes simplex	5	47	37	Jahnsan
Herpes Zoster	0	1	1	
Histoplasmosis	2	14	0	Cerra Garda, Lee
Infectious mononucleosis	9	206	363	Linn, Palk
Influenza, lab confirmed	1	108	34	Mitchell
Influenza-like illness (URI)	8676	48407	40270	Pala Alta, Linn, Johnson
Meningitis				
aseptic	2	13	12	Kassuth, Scatt
bacterial	13	71	64	Palk, Colhoun, Wopella
meningococcal	2	7	5	Butler, Emmett
Mumps	2	36	220	Block Hawk
Pertussis	0	0	1	
Robies in animals	48	219	89	Morsholl, Jasper
Rheumatic fever	0	0	0	
Rubella (German measles)	2	5	51	Story, Washington
Rubeola (measles)	0	0	15	
Salmonello	13	61	71	Scatt, Linn
Shigella	1	29	37	Foyette
Tuberculosis				
tatol ill	7	38	42	Palk
bact. pas.	5	29	36	Scattered
Venereal diseases:				
Gonorrhea	428	2358	2743	Block Hawk, Palk Scatt, Linn
Syphilis	0	8	23	

Laboratory Virus Diagnosis Without Specified Clinical Syndrome: Psittacosis — 1 Polk; Scarlet Fever — 1 Warren; Blastomycosis — 1 Linn; Campylobacter — 11 Dubuque, 1 Plymouth, 1 Palk; Malaria — 1 Story, 1 Woodbury; Typhoid — 1 Lee; Cocksoxle — 1 Linn, 1 County unknown.

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### Brief Summary

**INDICATION:** Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

**CONTRAINDICATIONS:** Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

**WARNINGS:** If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychological dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

**PRECAUTIONS:** Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

**ADVERSE REACTIONS:** **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

**DOSE AND ADMINISTRATION:** Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

**OVERDOSEAGE:** Manifestations of acute overdose include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine™) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdose.

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# STATE DEPARTMENT/ PUBLIC HEALTH

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## FOOTBALL SEASON APPROACHES: ARE WE DOING ENOUGH TO PREVENT CERVICAL INJURIES?

### INTRODUCTION

Vince Lombardi once said, "Dancing is a contact sport . . . football is a traumatic sport." Physicians, trainers, coaches and others have debated the degree of the hazard to which Coach Lombardi was referring, but no consensus has been reached. There is strong indication for doing more in Iowa to prevent one of the most dangerous hazards, cervical dislocation.

### DEFINING THE CERVICAL INJURY PROBLEM

A 1973 study of incoming football players at the University of Iowa revealed 33% had radiographic evidence of neck injury prior to participation in college football. Between 1971 and 1978 the National Registry of Head and Neck Injuries recorded over 1,000 cervical injuries requiring 72 hours of hospitalization. Five hundred fifty of these were fracture dislocations which produced 176 permanent quadriplegia. We must keep in mind these injuries did not occur in unsupervised activity, but in organized sport.

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This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

Department of Health computations based on national figures indicate an incidence of nearly 14 deaths or quadriplegias due to cervical injury per 100,000 participants during the years 1971-75. Statistics from the National Spinal Cord Injury Data Research Center reveal football far outranks other organized sports as a cause of these tragic injuries.

The social costs of these injuries are nearly as important as the personal losses. Department of Health computations, taking into consideration lost productivity, medical care, and discounting factors, suggest an annual national loss in excess of 30 million dollars. We ought to consider spending at least as much on prevention.

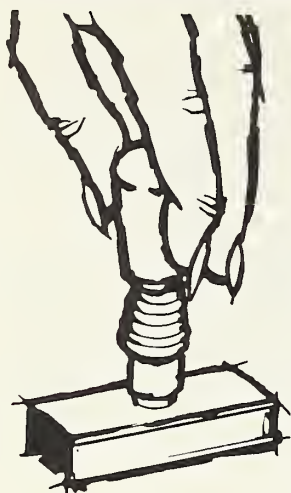
### CERVICAL INJURY CAUSES AND MECHANISMS

The last 2 decades produced a decline in football-related head injury due to development of the hard shell helmet. A complementary increase in cervical injuries occurred as players began to use the protected head as a blocking and tackling weapon. Rule changes have discouraged head contact but have not eliminated the problem.

Forces impacting the head can hyperextend or hyperflex the neck, bringing stress to bear on the small paracervical muscles supporting the vertebrae. If these muscles strain or tear, severe injury is likely. These muscles are actually small and limited in strength. The degree of assistance they receive from the larger neck muscles is uncertain. Boyd Epley, strength coach at the University of Nebraska and a widely acknowledged expert in training athletes to prevent injury, feels that since the primary function of the larger neck muscles is to rotate, elevate and depress the head, they do not offer much protection against the forces most threatening to the spinal cord.

### OPPORTUNITIES TO IMPROVE PROTECTION

Several economical measures can be taken to improve our preventive efforts. First, there should be absolute insistence on safe play. Coaches, fans, trainers and physicians must insist on complete enforcement of the rules adopted by the Iowa High School Athletic Association during the mid-1970's. We should be sure Iowa does not merit the 1979 complaint



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by *Sports Illustrated* that dangerous tactics have continued despite rules changes.

Second, player selection and screening can be improved. Many physicians screening athletes do not include careful orthopedic evaluations now required by virtually all major colleges. Recently, the state of Illinois adopted a plan to rotate specialists among schools with athletic programs to provide training where it is unavailable, to update screening physicians and to assist with screening vulnerability to specific types of injury. This program helps coaches assign players with reference to orthopedic factors and give special attention to specific weaknesses a player might have.

### SPECIAL EXERCISES AND EQUIPMENT

Third, information about special exercises for strengthening the small paracervical mus-

cles can be distributed to coaches and trainers. Exercises like those developed by Boyd Epley at the University of Nebraska are not currently in widespread use. They are simple enough to employ at the high school level without investment in costly equipment.

Finally, we need to consider equipment design. Helmets should be designed to prevent the fulcrum effect which exacerbates hyperextension stresses. Prevention of hyperflexion is more difficult and will require more research. Byron Donzis, an independent researcher who has designed special equipment for National Football League players, complains this research is not being done because of anxiety among manufacturers about their products liability vulnerabilities. Donzis advocates development of a flexion-limiting strap assembly linking the posterior aspect of the helmet securely to the shoulder pads. The feasibility of his idea is not receiving adequate attention from manufacturers.

### CONCLUSIONS

The costs of cervical injuries in football are unacceptably high. Iowa should take steps to totally eliminate the problem. We need community action to insure comprehensive screening of players as well as complete protective strength training. Iowa should consider a statewide plan to assist local physicians and provide expert training coverage to all schools. Communities must insist upon strict enforcement of rules prohibiting spearing, butt blocking and head tackling in practices as well as games. Finally, the state should call upon manufacturers to build much greater protection into football equipment.

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## ABOUT IOWA PHYSICIANS

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**Dr. Kim Brandt** joined **Dr. Robert Sautter** in family practice in Mount Vernon in July. Dr. Brandt received the M.D. degree at U. of I. College of Medicine and completed his family practice residency in Davenport. **Dr. Rebecca Brandt**, wife of Dr. Kim Brandt, will join them when she completes her family practice residency in Cedar Rapids. . . . **Dr. Reuben Widmer**, associate professor of family practice, U. of I. College of Medicine, was guest speaker at a recent continuing education program in Newton for nurses, pharmacists and physicians. The seminar, entitled "A Primary Care Perspective on Recognizing and Treating Depression," was sponsored by the U. of I. Colleges of Medicine, Pharmacy, and Nursing and the Iowa Academy of Family Physicians. . . . **Dr. John Ellis**, Muscatine, has been elected to Fellowship in the American College of Physicians. . . . **Dr. Steven J. Hanas** began family practice in DeWitt in July. Dr. Hanas received the M.D. degree at U. of I. College of Medicine and completed his family practice residency in Davenport. . . . **Dr. Martin Meyer**, associate professor, Department of Pediatrics, U. of I. College of Medicine, was guest speaker at a recent Hawkeye Institute of Technology Pediatric Drug Therapy Workshop. Dr. Meyer discussed drugs used in treatment of common urinary tract infections, upper respiratory and upper GI diseases.

**Dr. A. J. Herlitzka**, Mason City, was guest speaker at a recent Mason City meeting of TOPS (Take Off Pounds). . . . **Dr. Milton E. Barrent**, Clinton High School team physician for over 20 years, was guest speaker at a recent sports medicine seminar sponsored by the physical therapy department of Jane Lamb Hospital in Clinton. Dr. Barrent also recently

received a 1980 Distinguished Alumni Award from the U. of I. Alumni Association. He has practiced in Clinton since 1950 and is past president of medical staffs at both Mercy and Jane Lamb Hospitals; he is also past president of the Clinton County Medical Society and the Clinton Art Association. He helped start the nursing school at Clinton Community College and has served on the board of directors of the Clinton Chamber of Commerce. In 1979, Dr. Barrent was honored by the Iowa Football Coaches Association for his service to high school athletes. . . . **Dr. R. Paul Penningroth**, Cedar Rapids, recently was honored by the Linn County Community Mental Health Center for his leadership as medical director of the Linn Psychiatric Clinic from 1973 to 1979. . . . **Dr. David H. Stubbs** has joined **Drs. Ralph A. Dorner** and **Douglas B. Dorner** in the practice of vascular and general surgery in Des Moines. Dr. Stubbs received the M.D. degree at University of Missouri Medical School in Columbia, Missouri, where he had a surgery residency and a fellowship in peripheral vascular surgery. Prior to locating in Des Moines Dr. Stubbs was an assistant professor of surgery at the University of Missouri Medical Center.

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**Dr. William B. Bean**, Kempner Professor and Director of the Institute for Medical Humanities, University of Texas Medical Branch, Galveston, Texas, was guest speaker at recent meeting of the Association of Former Heads of Medicine in Washington, D. C. Later, at the 45th class reunion of the Medical School of the University of Virginia, in Charlottesville, Dr. Bean presented a portrait of Robley Dunglison to the school's health sciences library. Robley Dunglison was Thomas Jefferson's first professor of medicine at the University of Virginia. The portrait has been a Bean family possession since it was painted in 1848. . . . **Dr. Jerry Wille** recently began family practice at the Atlantic Medical Center. Dr. Wille received the M.D. degree at the U. of I. College of Medicine and had his family practice residency in Mason City. . . . **Dr. Joe Krigsten** and **Dr. William Krigsten**, Sioux City physicians, were the subject of a recent story in the SIOUX CITY JOURNAL citing their devotion to the practice of medicine. The Doctors Krigsten are the state's only actively practicing brothers with a combined total of 104 years of service.

Dr. Sidney Brody, Ottumwa, Dr. Percy Harris, Cedar Rapids, and Dr. Alan Nelson, Belmond, received distinguished service awards for outstanding contributions to high school athletics at the Iowa Football Banquet of Champions at Iowa State University in Ames.

## DEATHS

Dr. Robert E. Griffin, 64, Sheldon, died June 24 at the Sheldon Community Memorial Hospital. Dr. Griffin received the M.D. degree at U. of I. College of Medicine; and interned at St. Luke's Hospital in Spokane, Washington. A World War II veteran, Dr. Griffin had practiced medicine in Sheldon since 1946. He was a past president of the medical staff at the Sheldon Community Memorial Hospital and the official aviation medical examiner.

Dr. Laurence H. Norby, 35, assistant professor in the Department of Internal Medicine at U. of I. College of Medicine, died June 17 at his office. Dr. Norby received the M.D. degree at U. of I. College of Medicine; interned at Hennepin County General Hospital in Minneapolis,

Minnesota and completed his internal medicine residency at University Hospitals in Iowa City. At the U. of I., Dr. Norby was coordinator of the Renal Laboratory and served as assistant director of the Clinical Research Center. He was a member of the Research and Grant Committee of the Iowa Kidney Foundation; member of the American Federation of Clinical Research, American and International Societies of Nephrology and American and Iowa Heart Associations.

Dr. Jesse H. McNamee, 75, retired Des Moines physician, died July 8 at Mercy Medical Center in Des Moines. Dr. McNamee received the M.D. degree at the U. of I. College of Medicine and did postgraduate work at the University of Chicago. He began his medical practice in Des Moines in 1933, retiring in 1974. Following his retirement, Dr. McNamee did part-time service for the American Cancer Society; the Iowa Social Services Department, and Veterans Hospital. He was a Navy veteran of World War II; member of the Lions Club; and member of the Iowa Academy of Otolaryngology and Ophthalmology.

★

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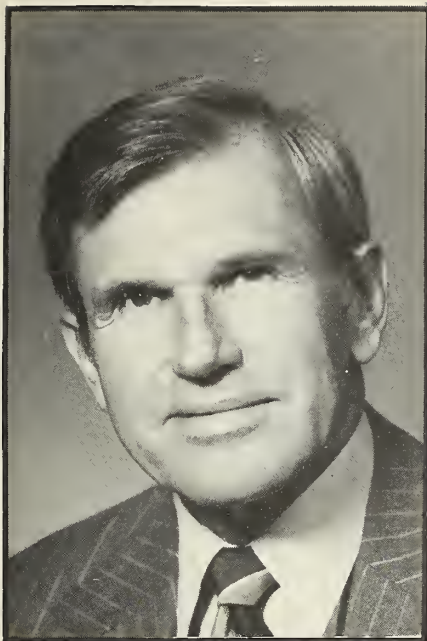
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## PRESIDENT'S PRIVILEGE

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IOWA'S DELEGATES to the American Medical Association House of Delegates voted with the majority in July when the significant action was taken to approve new Principles of Medical Ethics. A two-thirds majority was needed to adopt the new POME; this was exceeded by 11 votes.

So now, after two years of deliberation, and with input invited from all quarters of organized medicine, including Iowa, the medical profession has new ethical guidelines. Hopefully, you have had or will take time to read and study the new principles. The thrust of the new is not all that different from the former principles which were adopted in 1957. It is said the change is a matter of "wording" which is intended to express our ethical direction in more modern terms.

There are seven new principles. They are preceded by a three-sentence preamble. If you have not read them, or in the event you may wish to re-read them, we have decided to print them, both for current and historical value, in this month's *In The Public Interest* feature. We invite you to look at the page facing the inside back cover for the new principles.

The POME have meaning for us individually; they should undergird the manner in which we conduct our practices and the way in which

we relate to patients, colleagues, other health practitioners, and the public. In addition, they have working value for those who serve in leadership capacities. At its meeting in late August, the IMS Judicial Council took time to familiarize itself with the POME. In fact, the secretary of the AMA Judicial Council was in Des Moines to meet with our councilors to share thoughts about the new principles. The ethical interpretations made by the Council will be based henceforth on these statements.

It's been asked why were the Principles of Medical Ethics revised at this time?

The answer has been given, and it is valid, that medicine wanted to keep in step with the time. The language needed to be modernized, reference to gender needed to be eliminated and contemporary society expects different things from physicians today than it did in 1957. But, be assured the fundamental moral concepts that have guided physicians are present in the new POME.

Please become familiar with these principles!

*William R. Bliss, M.D.*

William R. Bliss, M.D.



## Where Were You July 20?

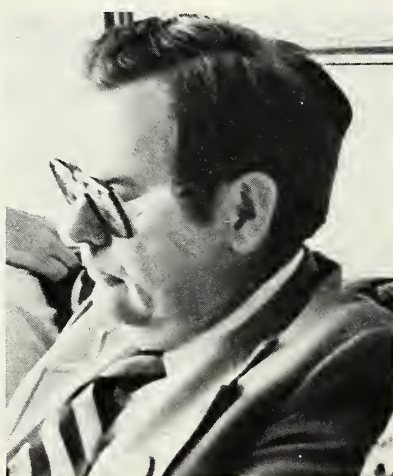
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*Twice a year Iowa is represented at meetings of the American Medical Association House of Delegates. Member physicians have but a limited opportunity to know first-hand just how this representation occurs. This diary-type report dwells on the form and schedule of the recent annual session of the AMA House. What is here touches only slightly on the important content of the session. But it is meant to afford some impression of the activity of those who represent Iowa in the AMA House.*

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***I**t's 8 a.m., Sunday, July 20, 1980!  
Where were you?*

If you are one of the Iowa physician delegates to the American Medical Association you are caucusing with fellow Hawkeyes at the Marriott Hotel in Chicago. You are arranging a looseleaf notebook that weighs better than 5 pounds. It holds nearly 100 reports and over 150 resolutions. These items will get your central attention the next several days. The Sunday morning caucus is to discuss and arrange these materials by reference committee; there are 9 reference committees, each will conduct hearings on the topics assigned. Then they will report their recommendations to the full House. You read proposals, both simple and complex, that cover the proverbial gamut of medical interest. You decide what particular reports and resolutions are



**CAUCUS** — (Top) The issues discussed, from left, by IMS President William R. Bliss, Trustee Maurice E. Kraushaar and Delegate John R. Anderson. (Above) Delegate Erling Larson, Jr., ponders a resolution.

of most consequence to your colleagues and patients back home.

What do the reports cover? Most everything. You look down the subject list. *Categorization of Hospital Emergency Capabilities. Elderly Health Screening Programs. Medical Record Confidentiality. Health Insurance Legislation. Continuing Medical Education. Study of Health Maintenance Organizations. Revision of Medical Ethics. Medicare "Reasonable Charges."* To name a few.

And the resolutions! They come mostly from state delegations. *Definition of Death (Tennessee). Standards for Health Insurance Coverage (New Jersey). Health Care Costs (Louisiana). CT Scanners (Missouri). HMOs (California). PSRO (Michigan). Pre-Admission Certification (Nebraska). Medical Manpower (Oregon).*

This opening caucus is akin to a



## IOWA PHYSICIAN DELEGATES

The Iowa Medical Society has 3 delegates in the AMA House of Delegates. This allowance is based on number of Iowa physicians who belong to the AMA. In addition, the IMS has 2 alternate delegates, with one alternate position open now. Further, in a sense, the Iowa delegation has three additional representatives. These are physicians who have been chosen to serve in the House on behalf of their specialty bodies. The full roster of delegates includes:

ERLING LARSON, JR., M.D., Davenport, IMS Delegate  
JOHN M. RHODES, SR., M.D., Pocahontas, IMS Delegate  
JOHN R. ANDERSON, M.D., Boone, IMS Delegate  
CLARENCE H. DENSER, JR., M.D., Des Moines, IMS Alternate Delegate  
ROBERT D. WHINERY, M.D., Iowa City, IMS Alternate Delegate  
GEORGE N. BEDELL, M.D., Iowa City, American Thoracic Society  
PAUL M. SEEBOHM, M.D., Iowa City, American Academy of Allergy  
MAURICE W. VAN ALLEN, M.D., Iowa City, American Academy of Neurology

pre-game strategy session. The kickoff is minutes away.

*It's 10:30 a.m., Sunday, July 20, 1980!*

If you are a member of the IMS Board of Trustees you take over where the delegates leave off in the suite of President W. R. Bliss, M.D. You're in Chicago to join Iowa's physician policymakers at the national level to cover the proceedings of the AMA House of Delegates. While you are here you conduct a regular monthly board meeting. You review Society financial and membership reports and find things in order. A detailed 6-month accounting of IMS income and expense shows the 1980 budget essentially on track. You review the 1980-81 schedule of events, putting emphasis on the Fall Leadership Conference, October 23. You go over a variety of items.

*It's 2 p.m., Sunday, July 20, 1980!*

The AMA House of Delegates is opened formally. If you are a delegate you are in one of the seats assigned to Iowa delegates. Otherwise, you choose a spot in the open seating. You're part of a colorful setting — flags, seals, emblems, some state delegations even have their representa-

tives decked out in same-color blazers (including Iowa in gold and black).

You listen attentively as Hoyt Gardner, M.D., Louisville, Kentucky, makes his presidential address to the delegates. His closeness to Iowa makes you listen carefully. You agree as he says:

*"On every issue, our hallmark as a medical federation is — and must be — a commitment to the human side of each equation. The very basis for the existence of this Association is to help physicians serve a greater Association: The ongoing family of man. Our service and accountability to that Association make up the composite of what was mentioned earlier: The composite of the stands that we take."*

*It's 5 p.m., Sunday, July 20, 1980!*

If you're part of the Iowa delegation, chances are you are at another caucus, again in the suite of President Bliss. Assignments are reconfirmed for tomorrow's reference committee hearings.

*It's 6:45 a.m., Monday, July 21, 1980!*

Iowans muster again to be present for a breakfast briefing of the North Central Medical Conference (which includes also delegations from Minnesota, Nebraska, South Dakota and North Dakota and probably Wisconsin in the near future). NCMC president this year is L. W. Swanson, M.D., Mason City; he calls on the several states to comment on matters of concern; he introduces the candidates for major AMA offices to offer campaign remarks.

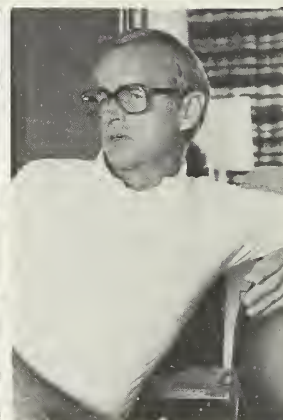
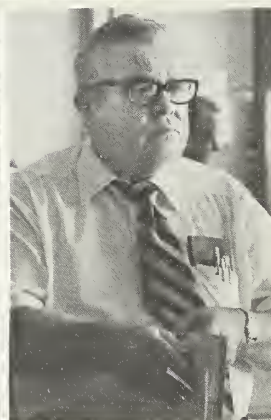
*It's 8:30 a.m., Monday, July 21, 1980!*

You move to your assigned reference committee hearing; they are designated A through H. They are arranged so matters of similar or related content are together, e.g., medical education, ethics, medical service, hospital accreditation, etc. The hearings last anywhere from an hour or so to all day, it all depends on the amount of testimony.



NEW AMA TRUSTEE — North Central Medical Conference President L. W. Swanson, left, from Mason City, is shown above with Robert Kelly, Grand Rapids, Minnesota, prior to his successful bid for election as an AMA trustee.





DISCUSSING THE ISSUES — IMS Board Chairman Harmaz Rassekh, left, listens to caucus discussion. Upper right, discussants are, from left, AMA Past President and Iowan Donovan F. Ward; IMS Immediate Past President and AMA Delegate from Allergy Paul M. Seebahm; AMA Delegate from American Thoracic Society George N. Bedell; IMS Delegate Jahn M. Rhodes, Sr. (partially shown); IMS Alternate Delegate Robert D. Whinery; IMS President-elect Jahn E. Kelly. Single photos, from left, IMS Trustee Jahn E. Tyrrell; IMS Delegate John M. Rhodes, Sr.; and IMS President-elect Jahn E. Kelly.

*It's 4 p.m., Monday, July 21, 1980!*

Iowa caucuses again. You report to your Iowa colleagues on the salient items discussed at your assigned reference committee hearing. The delegates are particularly interested in the debate and how the anticipated recommendations will impact on Iowa. This key caucus brings 20 or so Iowa physicians together for important conversation.

*It's 8:30 a.m., Tuesday, July 22, 1980!*

As an Iowa delegate, you are again caucusing with your associates to examine reference committee reports reproduced during the night. Your objective is to solidify Iowa thinking, as much as possible, for voting purposes at the ensuing House sessions.

*It's approximately 11 a.m., Tuesday, July 22, 1980!*

If you are an Iowa delegate you are standing with 192 other physicians from around the country voting to adopt new ethical principles for the medical profession; they are

approved. It's historic in that it's only the fourth time it's been done.

*It's 5 p.m., Tuesday, July 22, 1980!*

Again Iowans join their North Central compatriots. This time the NCMC is hosting a reception for delegates and others from around the country. A goal of the event is to buttress the candidacy of Robert Kelly, M.D., Grand Rapids, Minnesota, in his bid for election to the AMA Board of Trustees. The purpose is served. Dr. Kelly wins one of four seats.

*It's 9 a.m., Wednesday, July 23, 1980!*

The House is back in session for the day to handle more reference committee reports and to nominate candidates for various AMA offices.

*It's 5 p.m., Wednesday, July 23, 1980!*

If you are IMS President Bliss you sit on the dais with your counterparts from around the country to participate in the inauguration of Robert B. Hunter, M.D., Sedro Woolley,

Washington, as the 135th president of the American Medical Association.

*It's 9 a.m., Thursday, July 24, 1980!*

You've voted for the candidates of your choice. You are back in your delegate's seat representing Iowa. You approve, refer, amend or reject items before the House. You continue until adjournment at noon.

It's been a busy, interesting and, hopefully, productive time for approximately 20 Iowa physicians. They have carried the banner for their nearly 3,000 Iowa doctor associates.

The job is an important one. But not having been witnessed by many Iowa physicians, it is an event which is unfamiliar to the rank-and-file membership. This diary-type report is presented to increase this understanding a little. Meetings of the House of Delegates (AMA and IMS) are representative democracy at work. It is accurate to say Iowa physicians are being represented conscientiously within the AMA House of Delegates by their elected delegates and officers.





## QUESTIONS - ANSWERS

**EDWARD B. GROSSMANN,  
JR., M.D.  
ORANGE CITY, IOWA**

### IMS GRIEVANCE COMMITTEE

*Dr. Grossmann is chairman of the Iowa Medical Society Grievance Committee. This body of 12 physicians does significant work, but these efforts are little known to most IMS members. Dr. Grossmann comments here on the functions of the Grievance Committee. He is in the private practice of general surgery in Orange City.*

**The Iowa Medical Society Grievance Committee is an important entity. However, its functions are probably not well understood by the Society's members. Could you describe the duties which the Committee performs?**

The purpose of the Medical Society Grievance Committee is to investigate, as does a grand jury, the professional conduct and ethical deportment of members of the Iowa Medical Society. This may be done on the initiative of the Committee or upon complaint of any person or concerned organization.

The Committee is responsible for making recommendations to the Society, the Judicial Council or board of censors of any county society. These may be general policy recommendations or specific recommendations concerning individual physicians. If necessary, there may occur the actual prosecution of charges before the Judicial Council or board of censors.

If the Committee believes there has been an actual violation of law it has a responsibility to recommend to the Judicial Council that this be called to the attention of either the State Board of Medical Examiners, State Board of Health, the Attorney General or appropriate county attorney.

It is important to note that the Committee has no power to discipline a member upon its own initiative. This function resides with the Judicial Council of the Society. The Committee does, however, attempt to arbitrate grievances and effect voluntary settlements between contending parties. The Committee can be of special value in conflicts between individual patients and physicians. These problems frequently involve a breakdown of communications between the involved parties; the Grievance Committee can help to increase understanding on both sides of a conflict.

#### **What happens when a complaint is received at IMS headquarters?**

The complaint is forwarded to the secretary of the Committee who notifies the chairman of its receipt. The chairman determines whether the complaint should be investigated first and whether it should be heard by the whole Committee. Usually a copy of the complaint is forwarded to the involved physician and he is asked to submit whatever written comments he chooses to the Committee. At the next meeting the complaint and the physician's reply are considered and the Committee determines what action is required. The issue may be resolved simply by a letter to each party stating the Committee's findings. However, it may involve further investigation including issuing of a request that both sides appear before the Committee personally. If a violation of ethical or professional conduct has occurred, this may be brought to the attention of the Judicial Council or appropriate legal body.

#### **What types of complaints are handled by the Grievance Committee?**

One type of case may involve actual medical decisions in the management of a given patient. In this type of problem, the Committee

*(Please turn to page 386)*



## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

### JUNKED CARS, JUNKED IDEAS

Travelling by car, bus, train, or even by air, you see the graveyards of junked automobiles. Hundreds, even thousands of them, lie parked closely together or on top of each other, awaiting their ultimate melt-down, I suppose, and resurrection into a new auto or a new something.

On a recent train trip, stalled a few minutes beside such a graveyard, I reflected on how pleased and proud the original owners must have been when they claimed their brand new car — shiny, free of dents, with stylish appearance, handsome interior and that special smell of newness. A day of glory — milestone of progress and accomplishment. The funereal junkyard, too, is a milestone, but the emotions are different.

In my hand, while I looked at the rusting car hulks, rested a slim book of lectures delivered 100 years ago by Jonathan Hutchinson, the great British surgeon whose name we remember in Hutchinson's teeth and Hutchinson's melanotic freckle. He was the most widely renowned and best informed clinical teacher of his age. I've grown interested in his personal life and his prodigious observations and writing.

In the series of lectures published under the name, *The Pedigree of Disease*, Hutchinson ex-

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

plains many phenomena of disease and patterns of illness as he observed them in families. But remember, one hundred years ago microbiology was an infant (Pasteur had just discovered the *Streptococcus* and Koch was shortly to enunciate his postulates) and genetics was an unknown discipline. (Mendel had published his theories and experiments in 1865, but they were ignored and lost until the turn of the century.) Notions of inheritance were active, however, especially from the great influence of Darwin's *The Origin of Species* (1859).

Hutchinson was a good writer and a clear thinker. But his Victorian mode of expression relies heavily on words and notions no longer convivial to us: *constitutional* causes, *visceral congestion*, *tone* of the nervous system, *catarrhal inflammation*, *gouty disposition*, and two terms vital to his understanding of presumably heritable problems — *dyscrasia* and *diathesis*. Worse

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*Outworn ideas, like old cars in junkyards, belong in their own proper graveyards — back shelves in a medical library. But keeping them there is necessary to allow us to feel transient and properly humble.*

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than that, so far as accuracy is concerned, but better than that, so far as our enjoying the man and his times, are the many notions of etiology and pathogenesis that, while containing elements we would call truth, seem largely faulty or naive to us. For example, "In scrofula, rickets and in scurvy, we have examples of diatheses produced by defective food, whilst in leprosy and gout we illustrate those due to some excess, or rather to something deleterious in the food."

Do you remember learning about, and then ordering for patients, a measurement of the "basal metabolic rate?" And how that gave way to measuring protein-bound iodine, and that in turn to T<sub>3</sub>, T<sub>4</sub>, and TSH? If that much change has happened in my 25 years of practice, to say nothing of all the other new tests, drugs, surgical procedures and pathophysiologic insights, then how much different all will be after another 75 years? Outworn ideas, like old cars in junkyards, belong in their own proper graveyards — back shelves in a medical library. But keeping them there is necessary to allow us to feel transient and properly humble.





## SCIENTIFIC ARTICLES

# Whipworm: A Case in Iowa

ROY W. OVERTON, M.D.

West Des Moines, Iowa

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*The identification of Trichuris in the stool of a Korean child serves as a reminder to Iowa physicians they should be vigilant for health problems rarely seen in this area.*

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IN MANY AREAS of the United States the family practitioner seldom sees the intestinal parasite *Trichuris trichiura*, or whipworm. Intestinal parasites are endemic in the Far East where most children have worms of one kind or another. However, international adoption has lowered geographic barriers. While available resources are used to treat health problems prior to immigration, the United States Department of Health and Human Service still urges each adoptee be given a thorough physical examination with a stool analysis.

In July, 1978 a child from Asia was diagnosed with a case of whipworm in Des Moines, Iowa.

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Dr. Overton is in the private practice of family medicine in West Des Moines, Iowa.

The rarity of this parasite in Iowa is illustrated by survey findings from the Center for Disease Control. Between October, 1975 and July, 1978 state and local laboratories examined 4,644 specimens; positive findings of whipworm numbered 40. The percentage of international adoptees among the 40 is unknown.

### CASE HISTORY

This is the case history of A.F., an 11-year old Korean national adopted by an Iowa couple through the Holt Adoption Program, Inc., of Eugene, Oregon. Agency records indicated a basically healthy child. Laboratory data included parasitology studies which showed no significant results. He had a negative tuberculin test.

At the parents' request, A.F. was examined and found to be a healthy appearing child. He was both alert and cooperative. The physical examination revealed no abnormalities. The parents reported his bowel movements appeared normal. No particular problems were evident. His adjustment to his new home had been excellent and he was learning to speak English.

The laboratory provided a normal urine analysis. The CBC showed a 13% eosinophilia

THE SCANLON MEDICAL FOUNDATION/IOWA MEDICAL SOCIETY HAS DESIGNATED THIS ARTICLE  
AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF SEPTEMBER 1980.



Figure 1. Shown here is the egg of *Trichocephalus*.

with a normal WBC. Because of the elevated eosinophilia, stool examinations were made. *Trichuris trichiura* eggs were found in the fecal specimen.

Therapy for whipworm was initiated utilizing the oral drug mebendazole (Vermox,; Ortho Pharmaceutical Corp.), one (100 mg) tablet twice a day for 3 days. Subsequent and follow-up stool specimens remained negative for *Trichuris* ova.

#### MEDICAL RECORDS FURNISHED

The Holt Program furnishes a child's medical records. A stool report is included. The records and reports are made before immigration, and if treatment is indicated, it is given with appropriate rechecks made. However, it is possible for the parasite to appear after the patient leaves the Orient. One excellent source of information on medical problems of the adopted child is a booklet entitled "Tips on the Care and Adjustment of Vietnamese and Other Asian Children in the United States," provided by the now Department of Health and Human Service.<sup>1</sup> The family physician should have access to this publication before examining these children. A section of the booklet deals with ascaris (roundworm), giardia lamblia, hookworm, endolimax nana, trichuris (whipworm), entamoeba and strongyloides. Bacterial intestinal infections also occur.

Whipworm thrives in tropical regions characterized by warmth and moisture. Also, they proliferate where sanitation is poor and fecal material is more than a normal part of the soil.

The parasite is spread through hand to mouth contact, barefoot exposure, use of night soil for fertilization, and transferral to foodstuffs by flies.

One conservative estimate indicates there are half a billion infected individuals in the world. Most cases in the United States appear in the southeast. Poor sanitation and proper weather conditions cause greater incidence in this region. Most individuals with whipworm have light infections of no great significance. Some young children may have heavy infections resulting in disease manifestations.

#### INEFFECTIVE TREATMENT

In the past treatment for whipworm has been ineffective and frequently toxic. The use of hexylresorcinol enemas was unpleasant, complicated and unsatisfactory.<sup>3</sup> Oral drugs caused nausea and vomiting<sup>4</sup> or were found to have serious side effects. The oral drug mebendazole has recently made dramatic changes by proving to be an effective treatment.<sup>2</sup> Mebendazole, a new broad spectrum anthelmintic, cured 74% of 35 children with severe symptomatic trichuriasis. Although repeat therapy was necessary in some cases, all cases showed large reductions in egg counts. This medication is safe, well tolerated, easy to administer, and suitable for outpatient use. It is particularly beneficial in countries where there are multiple parasites. It successfully treats hookworms, round worms and whipworms simultaneously in a single course.

The identification of *Trichuris* in the stool of the Korean child living in the midwest served as a reminder to the Iowa physician to be vigilant for possible health problems unique to other lands but rare in the United States. The governmental booklet previously mentioned covers many subjects essential to excellent health care for the international adoptee.

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# Schistosomiasis Haematobium: Case Report and Review

RALPH R. PRAY, M.D.

Des Moines, Iowa

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Schistosomiasis is seen infrequently by Iowa physicians. It is an enormous problem in the tropics and subtropics. And its prevalence appears to be increasing in many places. This is a case report on a patient seen in Iowa.

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THIS is the case report of a 50-year-old married white male missionary who presented for a complete medical evaluation October 9, 1973, after having spent 3½ years in Africa.

While there, the patient participated in baptismal ceremonies in rivers and lakes. This involved wading into the water, and it was done without consistently wearing protective boots.

Two years prior to this examination, the patient developed hepatitis while in Africa. This occurred 3 weeks after an inguinal herniorrhaphy and was said to be of the infectious variety. The illness was characterized by a degree of jaundice, as well as fatigue and malaise. The patient subsequently recovered from the hepatitis. He also suffered a bout of pneumonia, which was treated with an antibiotic.

Eighteen months prior to this examination,

the patient was found to have red blood cells in his urine. He was treated with a sulfa drug for 30 days for a presumed urinary tract infection. Subsequently, he developed gross hematuria. His physician in Africa attributed this to a kidney infection. Apparently, no urine cultures were done. At the time of his presentation in my office, the patient still had occasional flakes or strands of red material in his urine. The patient denied dysuria, urgency or increased frequency of urination, but described some bilateral flank discomfort.

Six months prior to his examination, he had a 6-day febrile illness associated only with nausea.

Medical history revealed a patient with no known drug allergies. He had fractured a rib 3 years earlier. The only previous surgical operation was the inguinal herniorrhaphy in 1971. He was taking no medications. He had the usual childhood diseases without complications. He had no history of rheumatic fever, tuberculosis, or diabetes mellitus. He had scarlet fever at 9 years of age. He had tonsillitis in infancy and malaria in 1971.

The review of systems was essentially negative, except as described in the history of the present illness and past medical history.

The social history indicated the patient neither drank alcoholic beverages nor smoked tobacco products. He had no history of other drug usage. The family history was positive for ischemic heart disease and diabetes mellitus,

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Dr. Pray is in the private practice of internal medicine in Des Moines, Iowa.

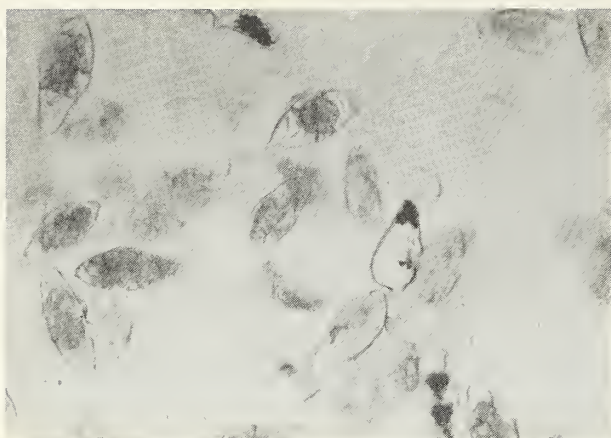


Figure 1. Freshly voided urine specimen shows eggs of *Schistosoma haematobium* (Courtesy of Department of Pathology, Iowa Methodist Medical Center).

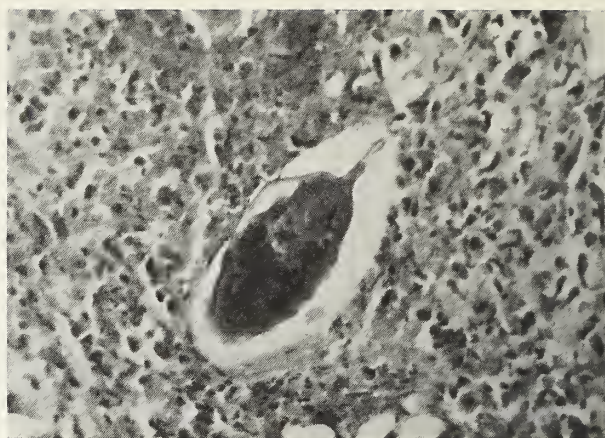


Figure 2. Schistosome egg is surrounded by chronic inflammation in a bladder wall biopsy (Courtesy of Department of Pathology, Iowa Methodist Medical Center).

but was otherwise noncontributory. The patient's 4 children and 52-year-old wife were in good health.

#### PHYSICAL EXAMINATION

The physical examination revealed a well developed, well nourished, pleasant, middle aged, white man in no distress. The blood pressure was 100/70, pulse 85 and regular, weight 148 pounds, and height 70 inches. The positive physical findings were that the pharynx was moderately injected, and there was cerumen present in both external auditory canals. There was a one centimeter firm, freely movable lymph node in the left axilla. The rectal examination revealed a firm lobulated mass at the 9 o'clock position in the rectal ampulla. The stool was positive for occult blood. Otherwise, the complete physical examination, including the examination of the heart, lungs and abdomen, was not remarkable.

#### LABORATORY DATA

The urinalysis revealed the presence of a moderate amount of white blood cells per high power field in the unspun specimen. The complete blood count showed a hemoglobin of 14.3 gm%, hematocrit 42%, and white blood cell count of 7,400/mm<sup>3</sup> with a normal differential count. The SMA-12 profile was normal and included a SGOT of 17 mμ/ml, cholesterol 190 mg%, glucose 55 mg%, and uric acid of 5.5 mg%. The chest x-ray and electrocardiogram were normal.

#### HOSPITAL COURSE

The patient was admitted to Iowa Methodist Hospital in Des Moines, Iowa, October 18, 1973, for further evaluation of the rectal mass, left axillary lymph node, and the history and laboratory finding of hematuria and pyuria.

Surgical and urological consultations were obtained. Careful examination of a freshly voided urine specimen revealed schistosome eggs (Figure 1). The patient had cystoscopy and bladder biopsy and biopsy of the rectal mucosa, and a left axillary lymph node biopsy on October 19, 1973. These procedures yielded the diagnosis of *Schistosomiasis haematobium* infection. The bladder biopsy showed Schistosomiasis with abscess formation and chronic granulomatous inflammatory reaction of the urinary bladder with hyperplasia of the urinary bladder mucosa (Figure 2). The rectal mucosal biopsy revealed Schistosomiasis with chronic granulomatous inflammatory reaction of the rectum. The left axillary lymph node biopsy showed reticuloendothelial and follicular hyperplasia and adipose infiltration of the nodes; thus, the left axillary lymph node biopsy showed no parasitic involvement.

#### TREATMENT

The patient's Schistosomiasis was treated with Fuadin, a brand of stibophen, 6.3% solution, U.S.P. He was given 1.5 cc I.M. the first day, 3.5 cc I.M. the second day, 5.0 cc I.M. the third day, and 5 cc I.M. again the day of discharge. He tolerated the medication well with



only minimal nausea and myalgia. The patient was discharged October 24, 1973.

Arrangements were made for the patient to complete his course of therapy as an outpatient. He received 5 cc of stibophen intramuscularly every other day for 17 more doses. He had a weekly complete blood count, platelet count and SMA 12 profile while receiving the medication. These laboratory parameters remained within normal limits.

*Followup.* Urinalysis was done every two weeks to look for schistosome eggs. These cleared from the urine on therapy. The hematuria and pyuria resolved during therapy. The rectal examination one month after discharge from the hospital revealed only induration at the site of the rectal biopsy; the mass had resolved.

The patient was advised concerning the cause and nature of his illness. He was urged to stay out of contaminated water, as he was to return to Africa for another 3 years beginning in 1975.

#### REVIEW

*Epidemiology.* Schistosomiasis is one of the enormous health problems in the tropics and subtropics. Infection with *Schistosomiasis haematobium* is particularly common in Egypt and Africa. It is estimated that at least 200 million persons in the world are affected with Schistosomiasis.<sup>2</sup> The problem is aggravated by irrigation schemes, which are important to the development of most of the affected areas. In fact, Schistosomiasis is now regarded as the foremost parasitic public enemy, as the threat of malaria has been removed from 77% of the population in the previously malarious areas.<sup>5</sup>

Especially in the past 20 years, much money has been spent on research into and control of Schistosomiasis, but its prevalence appears to be increasing in many places. Effective control has been established in a few endemic areas, but these represent only a fraction of the total area where Schistosomiasis is a problem.<sup>6</sup> Probably less than 10% of those persons infected will receive treatment.<sup>5</sup>

*Life Cycle.* The life cycle of these 3 species of Schistosomes is similar and may be described diagrammatically<sup>7</sup> as shown in Figure 3.

Thus, man is infected with the adult worm. The Schistosome ovum is passed in feces or urine and releases the free-swimming miracidium which invades the intermediate snail host where it undergoes metamorphosis with

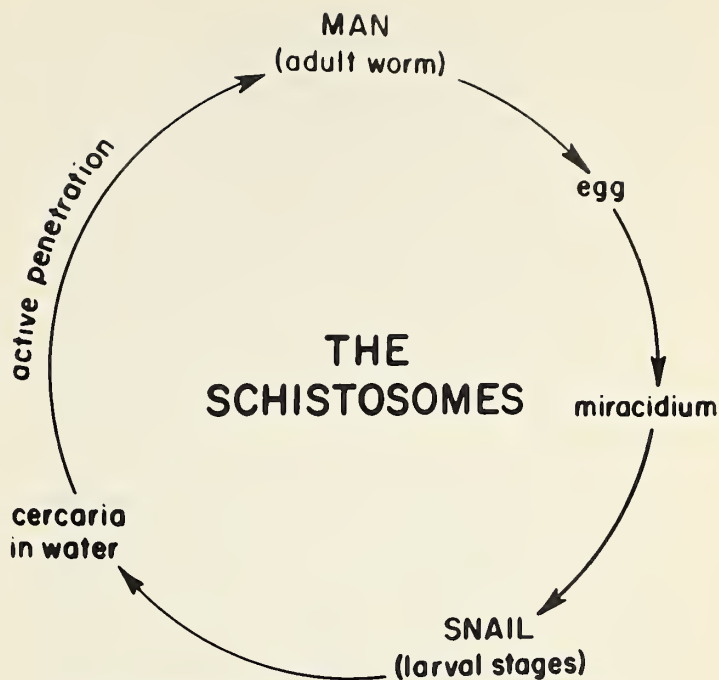


Figure 3. Diagrammatic representation of Schistosome life cycle as depicted by Markell and Voge in "Medical Parasitology" Second Edition (Reproduced by permission from W. B. Saunders Co.).

the formation of primary sporocysts, secondary sporocysts and cercariae. Man is infected when exposed to contaminated water where the free-swimming cercaria burrows through the skin.<sup>1</sup>

The diecious adult worms of the species *Schistosoma haematobium* live primarily in the vesicle and pelvic plexuses of the venous circulation, less commonly in the portal blood stream, and rarely in other venules.<sup>4</sup>

*Pathology.* The pathogenic effects in humans are due to generalized and localized reaction to metabolites of growing and mature worms, to trauma with hemorrhage as the eggs escape from the venules, and pseudo-abscess and pseudo-tubercle formation around eggs lodged in perivascular tissues.<sup>4</sup>

The most frequent urinary tract lesion of *Schistosomiasis haematobium* is postvoiding retention of urine. Urinary obstruction is a common abnormality as well. Causes of the obstruction are ureteral stenosis, ureterolithiasis and bladder calcification. Calcification and stenosis occurs mainly in the left lower ureteral segment. Incidence and degree of dilatation of ureterectasis are similar in all segments. When lesions are statistically distributed by age, it is found that polypoid ones become fibrotic and calcified with an associated decrease in egg output.<sup>9</sup>

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## SCHISTOSOMIASIS HAEMATOBIIUM: CASE REPORT AND REVIEW

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**Diagnosis.** The diagnosis is most readily made by recovery of the characteristic ova, either by sedimentation or centrifugation of the urine. Terminal hematuria in a patient from the endemic areas should make one highly suspicious of this infection. It may be possible to find the ova in biopsy material from the bladder wall.<sup>7</sup>

**Treatment.** Potassium antimony tartrate, tartar emetic, a trivalent antimony compound, is the mainstay of treatment for Schistosomal infections, as it is most effective in bringing about a cure.<sup>3</sup> However, the course of treatment is long, it often causes nausea, sometimes causes bradycardia and prostration, and must be given IV.<sup>2, 7</sup>

Stibophen (Fuadin), sodium antimony bis-catechol-2, 4-disulfonate heptahydrate, is somewhat less toxic than tartar emetic. It is also less effective, but may be used in the treatment of *Schistosoma mansoni* and *S. haematobium* infections, or in children infected with *S. japonicum*. The drug is supplied in ampules of 6.3% solution and is given intramuscularly. The adult dosage is 1.5 ml the first day, 3.5 ml the second day and 5.0 ml the third day and 5.0 ml every other day for a total of 18 injections. Nausea and vomiting are frequent side-effects, as are muscular pains and aching joints. If symptoms from the drug are severe, the dosage should be decreased or the drug stopped. Repeated courses of therapy may be necessary.<sup>7</sup>

Antimonials are contraindicated in the presence of severe cardiac or renal disease, or if there is hepatic disease unrelated to the schistosomal infection. The organic compound Leucanthone, Nilodin, or Miracil D, is not as effective as Stibophen. Its use is usually reserved for children under 16 years of age infected with *S. haematobium* or *S. mansoni*. The drug is given orally at a dose of 5 mg per kilogram 3 or 4 times a day for 6 to 8 days. Transient nausea, vomiting, and dizziness are com-

mon. Overdosage may lead to convulsions. Leucanthone should be administered with caution in the presence of renal disease.<sup>7</sup>

Hycanthone has the advantage of a single injection and is, therefore, of interest for mass chemotherapy. Unfortunately, most reports indicate low cure rates, in the range of 50 to 65%, and a tendency to hepatotoxicity which is occasionally severe.<sup>2</sup>

Niridazole may be given orally, but may produce neuropsychiatric complications. This is more liable to occur in patients with liver damage.<sup>2</sup> Side effects are common, including gastro-intestinal upsets and reversible T-wave changes on electrocardiograms.<sup>4</sup>

Completely successful treatment is indicated by disappearance of the eggs from the urine and the absence of hematuria. Relapse is indicated if all the eggs passed after treatment are abnormal. The presence of both normal and abnormal eggs indicates both relapse and reinfection. This is also the case if all the eggs passed appear normal.<sup>4</sup>

**Prognosis.** The prognosis in *Schistosoma haematobium* infections is excellent to fair in uncomplicated cases with adequate treatment, but frequently grave in untreated cases.<sup>4</sup> At 5 year followup evaluations of successfully treated patients, it has been shown that, if the patients remain free from reinfection, urinary tract abnormalities continue to resolve. However, if an interval reinfection occurs, marked urographic deterioration results.<sup>8</sup>

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## COMMENTING EDITORIALY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### EXOTIC DISEASES

Most physicians in the Midwest are inexperienced in the recognition and treatment of diseases introduced from foreign countries. Our great advances in public health surveillance have made us less aware of parasitic infestations. Now with our greater involvement with peoples from Laos, Cambodia and Vietnam we must have a new awareness of some of the diseases common to refugees from Indo-China. Our diagnostic awareness must be sharpened. To that end, this issue of the JOURNAL presents two reports of parasitic disease

from other parts of the world. It is not only the refugee, but possibly one who has spent an extended period of time in a foreign land who may contact these diseases.

We hope these reports will enlighten our readers, not only to renew an awareness of the diseases but also to sharpen the diagnostic and therapeutic acumen. Physicians who have practiced in our southern states may be more aware of such parasites as whipworm and hookworm, and in Iowa we certainly are aware of ascaris. A study from Oregon of Indo-Chinese refugees revealed that 38.5% had one or more parasites identified in their stool specimens. The parasites included ascaris, hookworm, giardia, trichuris, clonorchis and strongyloides, as well as *Entamoeba histolytica* and *Taenia* species. The protozoan diseases such as *Entamoeba histolytica* and *Giardia lamblia* can be transmitted in a person-to-person fashion or via contaminated foods. Therefore, even the asymptomatic Indo-Chinese refugee employed as a food handler should have preliminary stool examinations. This may be difficult to explain to the wary refugee and a skilled interpreter may ease the situation.

The Iowa Department of Health is anxious to communicate with physicians who may have questions regarding these matters. The Des Moines telephone number is 281-5643; for physicians outside of Des Moines, the toll-free number is 1-800/262-2736. — M.E.A.

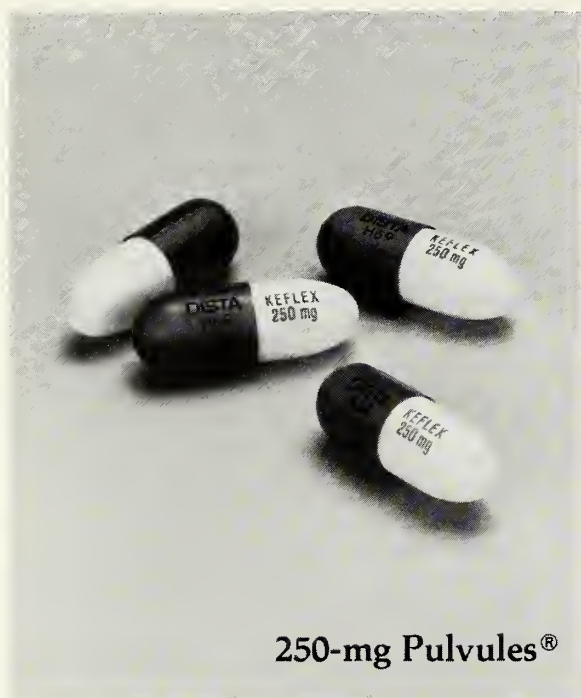
### DOCTOR? PHYSICIAN?

The term doctor is used to identify the holder of any one of several degrees — M.D., D.O., D.D.S., Ph.D., D.D., J.D., D.V.M., etc. Several overtures have been made in California to permit doctors of osteopathic medicine to use the designation "M.D." in their professional title. Recently, the licensing board of medical practice in that state elected to avoid the issue.

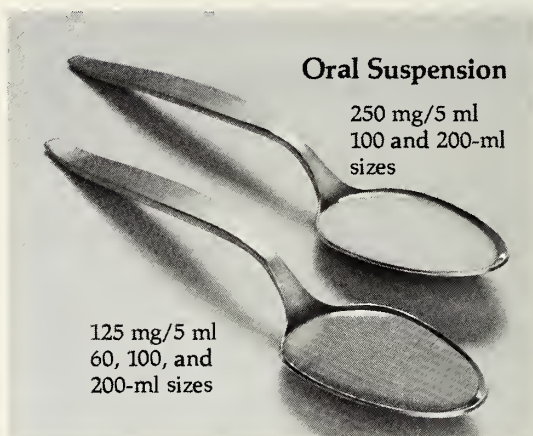
Certainly, it would seem unusual that a body

other than a college or university could assign a combination of letters to identify the recipient which is different from the educational institution. I propose we avoid the professional designation "Doctor" and use the term "Physician" and forget the degree symbols and abbreviations. After all, many graduates of foreign medical schools have degrees that do not refer to doctor. Their diplomas indicate a degree of Bachelor of Medicine — Bachelor of Surgery. It all presents a real dilemma. We are *physicians* regardless of any other title conferred upon us. — M.E.A.

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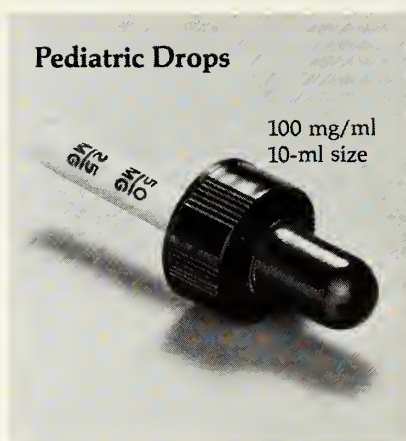
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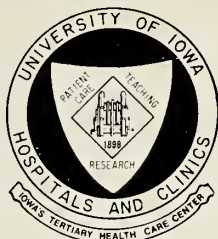
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# DRUG THERAPY REVIEW



## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

### MINOXIDIL IN REFRACTORY HYPERTENSION

Minoxidil is a long-acting potent vasodilator recently approved by the FDA and marketed by the Upjohn Company under the trade name, Loniten.<sup>®</sup> It is indicated for the treatment of severe hypertension which is not adequately managed by the combination of a diuretic and maximum doses of at least two conventional antihypertensive medications. The use of minoxidil in mild or moderate hypertension is not recommended at the present time. Minoxidil is specifically contraindicated in pheochromocytoma and its safety in pregnancy has not been established.

#### CLINICAL TRIALS & MECHANISM OF ACTION

Minoxidil lowers blood pressure by direct relaxation of peripheral arterioles with good maintenance of blood flow to cerebral, coronary, splanchnic and renal vascular beds.<sup>1, 2</sup> Because minoxidil elicits reflex increases in

sympathetic activity and renal sodium absorption, simultaneous therapy with a beta-adrenergic blocking agent and a diuretic is usually required.

Clinical trials with minoxidil have involved over 200 investigators and 2,000 patients including 30 patients from University Hospitals. In general, minoxidil produces a fall in systolic and diastolic blood pressure averaging about 30 mm Hg.<sup>3-7</sup> At least 75% of patients with refractory hypertension will respond to minoxidil therapy.<sup>1-7</sup> Besides its potency, minoxidil has two principal advantages. The drug does not enter the central nervous system and does not cause the undesirable sedative effects seen with many antihypertensive drugs. Secondly, minoxidil does not interfere with vasomotor reflexes and thus will not *by itself* produce orthostatic hypotension nor will it lower diastolic blood pressure below 80 mm Hg in normal subjects or hypertensive patients.<sup>2, 4</sup> Target organ damage is usually interrupted in patients treated with minoxidil and actually improves in some 50-60% of patients followed for a year or longer.<sup>5-7</sup>

#### PHARMACOLOGY

Absorption of minoxidil is rapid and nearly complete. After an oral dose, blood pressure begins to decline in 15-30 minutes. Peak effect is observed at 2-4 hours and duration of effect is 3 days. The cellular mechanism responsible for the relaxing effect of minoxidil on vascular smooth muscle is unknown. Although the blood pressure response correlates with the log of minoxidil dose administered, it does not correlate with plasma concentrations of the drug or metabolites. Normally, minoxidil is metabolized by the liver and 90% is excreted in the urine.<sup>8</sup> Minoxidil is effectively removed by hemodialysis and does not bind to plasma proteins. There are no satisfactory published guidelines for adjustment of minoxidil dose in patients with hepatic and/or renal disease. In our experience, no dose reduction is necessary in patients with moderate renal failure and adequate urine flow. Dialysis patients, in contrast, require 30% less drug than nondialysis patients to achieve comparable reductions in blood pressure.

The average daily dose of minoxidil in adults is 20-25 mg with an effective range up to 100 mg. Because of minoxidil's long biologic half-

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

*(Please turn to page 387)*

## QUESTIONS/ANSWERS

(Continued from page 373)

may call on physicians in specialties not represented on the Committee, if necessary, to provide expertise. Conflicts between physicians and pharmacists concerning the dispensing of drugs have been heard. Complaints about improper conduct between physicians and patients of the opposite sex have also come before the Committee. The number of fee disputes has markedly dropped since these are being handled by fee review committees of the Iowa Foundation for Medical Care.

### Are certain complaints outside the scope of the Committee's purpose?

The Grievance Committee is limited to the investigation of ethical and professional conduct of the members of the Iowa Medical Society. However, nonmembers may also be investigated if necessary. We do not investigate complaints where legal action has been openly suggested, is in process, or has been taken previously.

### Probably the handling of problems and specific ethical questions is best accomplished at the local or county society level. Do you advocate active county committees in the area where size permits?

I agree that disputes are best arbitrated locally. However, the small number of physicians in many counties and on many hospital staffs means that the Grievance Committee at the state level will continue to function as a necessary entity.

## MEDICAID SESSIONS

System Development Corporation (SDC), the new Medicaid fiscal agent, will conduct 17 half-day workshops for health care providers and their staffs in September and October. Sessions are scheduled in Council Bluffs, Ottumwa, Sioux City, Des Moines, Iowa City, Mason City, Storm Lake, Waterloo, Dubuque, Davenport and Cedar Rapids. More information is available from IMS headquarters.

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**CONTRAINDICATIONS:** Because of the quinine content, Quinamm is contraindicated in women of childbearing potential, in pregnancy, in patients with known quinine sensitivity, and in patients with glucose-6-phosphate dehydrogenase deficiency. Hemolysis (with the potential for hemolytic anemia) has been associated with a G-6-PD deficiency in patients taking quinine.

**PRECAUTIONS:** Thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients. Recovery will follow withdrawal of the medication. Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

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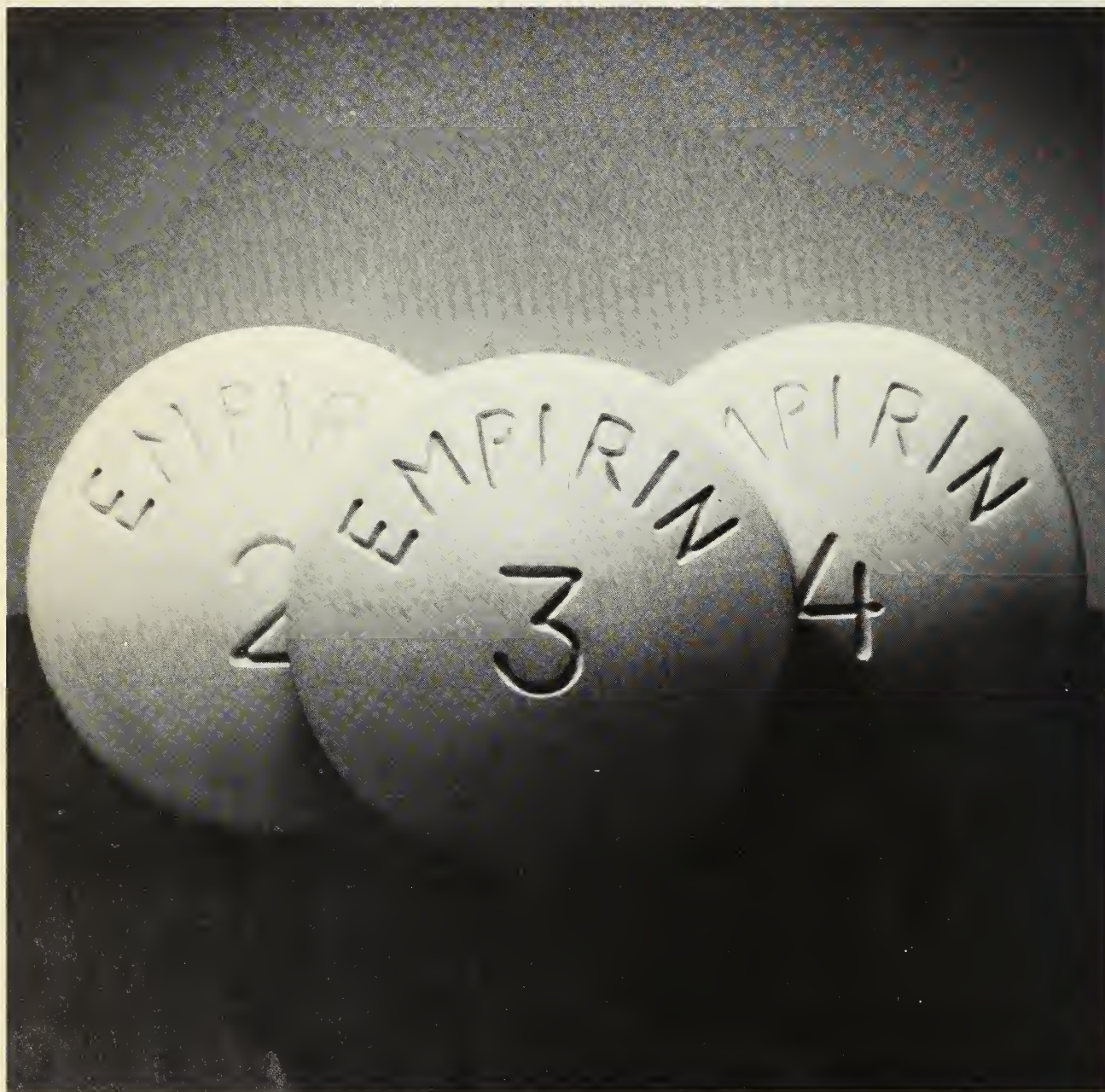
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## DRUG THERAPY REVIEW

(Continued from page 385)

life, approximately 50% of treated patients can be adequately managed on a once a day dosing regimen. The remaining patients require a twice daily schedule to avoid greater than 30 mm Hg daily blood pressure fluctuations. The effective pediatric dose range is 0.25 to 1.0 mg/kg/day with a maximum recommended dose of 50 mg/day. The drug is supplied as 2.5 and 10 mg tablets. It cannot be given parenterally.

Minoxidil's usefulness has been limited by its potential for serious side effects. In response to minoxidil induced peripheral vasodilation, there are sympathetically mediated increases in heart rate and myocardial contractility. These can usually be controlled with a beta blocker. When beta blockade is contraindicated, clonidine or alpha-methyldopa may be substituted. Minoxidil should not be used without a suppressant of the sympathetic nervous system.

A second serious problem with minoxidil is a tendency (often extreme) for salt and water retention. This complication also appears to be secondary to the hemodynamic effects of minoxidil rather than a direct action on the kidney. Patients receiving minoxidil who have normal cardiac and renal function can maintain sodium balance with moderate salt restriction and a thiazide. The compromised patient treated with minoxidil, in contrast, may be unable to excrete more than a few mEq of sodium daily even with large doses of furosemide. This underscores the importance of salt restriction in those patients unable to excrete significant amounts of sodium. A rational approach to the problem of salt retention is to individually titrate the diuretic requirement in each patient using frequent weights and quantitative measurements of sodium excretion as guidelines. It is imperative to know the salt-retaining properties of minoxidil.

At least 70% of patients on minoxidil will experience elongation and thickening of fine body hair. When minoxidil is stopped, excess hair growth ceases and restoration of pretreatment appearance is seen in 2-4 months. No endocrinologic abnormalities have been identified and the hirsutism from minoxidil has not been associated with other features of virilism.

Pericardial effusion has been detected in 3-4% of patients receiving minoxidil.<sup>9</sup> The vast majority of effusions occurred in patients with uremia or other predisposing conditions and in the setting of severe fluid retention. There is no evidence to suggest that pericardial effusion results from direct tissue toxicity of minoxidil. Several patients with effusions have been rechallenged with minoxidil and had no recurrence. Transient T-wave flattening and inversion has been observed in up to 80% of patients treated with minoxidil.<sup>10</sup> The EKG changes have not been associated with clinical evidence of myocardial ischemia. Minoxidil produced hemorrhagic and necrotic cardiac lesions in experimental animals. Similar histologic abnormalities have not been observed in autopsies on humans treated with minoxidil. Uncommon side effects from minoxidil include nausea, breast tenderness, bone marrow suppression, and fever.

### COST

From our pharmacy, the direct patient cost for one month of minoxidil therapy (20 mg/day) is \$20. This is comparable to alpha-methyldopa (2,000 mg/day; \$22), more than hydralazine (200 mg/day; \$12), and less than clonidine (2.0 mg/day; \$40) and prazosin (20 mg/day; \$26).

In summary, minoxidil is a potent, orally active vasodilator which is useful in the treatment of severe refractory hypertension. It has a high potential for serious side effects and should be administered in combination with a diuretic and sympathetic blocking agent. The usefulness of minoxidil in mild and moderate hypertension has not been established.

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# STATE DEPARTMENT/ PUBLIC HEALTH

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## THE IOWA "WIC" PROGRAM

A mother's nutritional status before, during and after pregnancy has a major influence on the health of the newborn and the mother. Proper nutrition is also important during the critical stages of growth and development of young children.

In recognition of the importance of nutrition to the health of young children and pregnant women, Congress in 1972 passed legislation creating a major nutrition intervention program. The new program is called the Special Supplemental Food Program for Women, Infants and Children (WIC). The national program started in a small pilot status and has since grown to benefit over 2 million women and children.

The program provides special supplemental food, nutrition education and encouragement to obtain regular medical care. It is this important combination of foods, education and health care which gives the WIC program the ability to make a difference.

The WIC program is funded through the U.S. Department of Agriculture, funds are made available to the Iowa State Department of Health. The SDH contracts with 20 participating local agencies, e.g., community action programs, non-profit agencies, or medical centers to operate the program at the local level. Iowa funding for fiscal year 1980 is approximately \$7.5 million. Eighty percent of this funding or \$6.0 million goes toward the actual

purchase of the supplemental foods. The remaining \$1.5 million or 20% of the total contract is used for administration of the program and provision of nutrition education.

Approximately 25,000 women and children are served each month at over 175 WIC clinics which operate statewide. Clinic hours range from 1 day/month in some rural counties up to 15 days/month in urban counties.

A woman or child's first contact with the program is usually by a medical or social service referral or by word of mouth from friends. Eligibility for the program is determined by a qualified nutritionist based on the following three criteria:

- **STATUS:** Pregnant woman; postpartum woman up to 6 months; breastfeeding woman up to 12 months; infant or child up to 5 years
- **INCOME:** Less than 150% of current poverty guidelines
- **NUTRITION RISK:** Determined following a nutrition evaluation including:
  - anthropometry (height, weight, skinfold)
  - hematocrit
  - diet and medical history

Common factors which produce nutrition risk and allow for eligibility:

- Abnormal growth: weight or height  $\leq 5$ th or  $\geq 95$ th percentile; abnormal gestational weight gain; birth weight  $\leq 2500$  gms.
- Low Hematocrit:
  - $\leq 34\%$  for pregnant women, children 2-5 years
  - $\leq 37\%$  for postpartum, breastfeeding women
  - $\leq 31\%$  for infants up to 2 years of age
- Health Conditions: previous reproductive history of high parity, toxemia, premature delivery, multiple birth; age  $< 18$  or  $> 35$  at conception; or chronic conditions, as diagnosed by a physician, which are influenced by inappropriate diet, e.g., hypertension; diabetes; genetic metabolic disorders; cardiovascular, gastrointestinal or renal diseases; severe food allergy; chronic infections
- Abnormal Dietary Pattern: inadequate intake of nutrients; excessive intake of nutrients; excessive alcohol intake; pica

Once an individual is deemed eligible for the program, he or she receives WIC checks monthly for the purchase of specific foods in the grocery store. An individual's specific food package is designed to meet the participant's needs as determined by the nutritionist. Foods

*(Continued on page 390)*



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Hemorrhoidal Suppositories

## ANUSOL-HC® CREAM

Rectal Cream with Hydrocortisone Acetate

**Caution: Federal law prohibits dispensing without prescription.**

**Description:** Each Anusol-HC Suppository contains hydrocortisone acetate, 10.0 mg; bismuth subgallate, 2.25%; bismuth resorcin compound, 1.75%; benzyl benzoate, 1.2%; Peruvian balsam, 1.8%; zinc oxide, 11.0%; also contains the following inactive ingredients: dibasic calcium phosphate, and certified coloring in a hydrogenated vegetable oil base.

Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg; bismuth subgallate, 22.5 mg; bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

**Indications:** Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, anal fissures, incomplete fistulas and relief of local pain and discomfort following anorectal surgery.

Anusol-HC Cream is also indicated for pruritus ani.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol® Suppositories or Ointment.

**Contraindications:** Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations.

**Warnings:** The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

**Precautions:** Symptomatic relief should not delay definitive diagnoses or treatment.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued and appropriate therapy instituted.

In the presence of an infection the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled.

Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Anusol-HC is not for ophthalmic use.

**Dosage and Administration:** Anusol-HC Suppositories — Adults: Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at

bedtime for 3 to 6 days or until inflammation subsides. Then maintain patient comfort with regular Anusol Suppositories.

**Anusol-HC Cream — Adults:** After gentle bathing and drying of the anal area, remove tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain patient comfort with regular Anusol Ointment.

**NOTE:** If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

**How Supplied:** Anusol-HC Suppositories — boxes of 12 (N 0047-0089-12) and boxes of 24 (N 0047-0089-24) in silver foil strips with Anusol-HC W/C printed in black.

Anusol-HC Cream — one-ounce tube (N 0047-0090-01) with plastic applicator.

Store between 59°-86° F (15°-30° C).

Full information is available on request.

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## STATE DEPARTMENT/PUBLIC HEALTH

(Continued from page 388)

which may be received in the package by women and children are milk, natural cheese, natural juices high in Vitamin C, eggs and iron-fortified cereal. Infants may receive iron-fortified formula if the mother is not breast-feeding. These foods are offered in the WIC program because they represent concentrated sources of the nutrients found by national nutrition surveys to be most commonly lacking in the diets of the population being served. These target nutrients include iron, Vitamin C, protein, calcium and Vitamin A.

An equally important benefit is the nutrition education which is provided to each participant on an individual basis. This is taught as an adjunct to regular health care and is designed to enhance understanding of the relationship between good nutrition and health.

The effectiveness of the program has been shown in several evaluation studies. WIC participants have significantly lower infant mortality rates, decreased rate of anemia, lower incidences of low birth weight infants and greater maternal weight gain during pregnancy than non-WIC participants. One investigator found a benefit-cost ratio of 3.1:1 favoring WIC when analyzing the cost of medical care for low-birthweight infants.

WIC foods and nutrition counseling should be looked upon as a supplement to medical care to improve and maintain the health of low-income, high-risk mothers and small children throughout Iowa and the country.

## NAMED TO SHCC

Robert A. Pfaff, M.D., Dubuque, has been named to the Statewide Health Coordinating Council. Dr. Pfaff practices urology with Medical Associates in Dubuque. He will serve by appointment to fill a vacancy until June 30, 1981.

Dr. Pfaff is first vice-president of the Iowa Foundation for Medical Care. He now becomes the second physician on the 31-member SHCC. John E. Tyrrell, M.D., Manchester, is a SHCC member and former chairman of that body. He is a member of the IMS board of trustees.

## July 1980 Morbidity Report

Disease	July 1980 Total	1980 to Date	1979 to Date	Most July Cases Reported From These Counties
Amebiasis	0	7	63	
Brucellosis	1	5	3	O'Brien
Chickenpox	48	7427	7050	Des Moines, Johnson
Cytomegalovirus	3	15	6	Johnson, Scott
Eaton's Agent infection	0	9	31	
Encephalitis, virol	0	8	15	
Erythema infectiosum	2	398	1071	Johnson
Gastroenteritis (GIV)	132	13362	12936	Black Hawk, Jefferson
Giardiasis	2	14	21	Polk
Hepatitis, A	14	93	128	Polk, Scott
Hepatitis, B	5	49	62	Linn, Polk
type unspecified	4	45	33	Cedar, Dubuque, Johnson
Herpes simplex	12	59	41	Johnson, Polk, Muscatine
Herpes Zoster	0	1	1	
Histoplasmosis	0	14	0	
Infectious mononucleosis	0	206	375	
Influenza, lab confirmed	1	109	34	Foyette
Influenza-like illness (URI)	426	48833	40454	Black Hawk, Polo Alto
Meningitis				
oseptic	2	15	18	Clarke, Scott
bacterial	8	79	75	Scattered
meningococcal	1	8	9	Cherokee
Mumps	1	37	223	Des Moines
Pertussis	0	0	1	
Robies in animals	47	266	105	Sioux, Woodbury, Jasper
Rheumatic fever	0	0	0	
Rubella				
(German measles)	2	7	51	Johnson, Pottawottmie
Rubeola (measles)	0	0	16	
Solmonello	11	72	93	Scattered
Shigellosis	3	32	39	Scattered
Tuberculosis				
total ill	18	55	47	Polk, Boone, Woodbury
bact. pos.	13	41	40	Polk, Jasper
Venereal diseases:				
Gonorrheo	397	2755	3194	Polk, Scott, Linn, Black Hawk
Syphilis	1	9	24	Madison

Laboratory Virus Diagnosis Without Specified Clinical Syndrome: Adenovirus 1 — Johnson, 1 — Polk; Rocky Mountain Spotted Fever 1 — Woodbury; Scarlet Fever 1 — Polk, 1 — Warren, 1 — Des Moines; Blastomycosis 1 — Decatur; Coxsackie 1 — Johnson; Molorio 1 — Lee; Compylobacter 1 — Boone, 2 — Delowore, 3 — Dubuque, 1 — Ido, 3 — Jackson, 1 — Johnson, 2 — Lee, 1 — Morshall 1 — Polk, 1 — Pottawottmie, 2 — Woodbury; Leptospirosis 1 — Polk, 1 — Story.



## ABOUT IOWA PHYSICIANS

At a recent annual meeting of the North American Primary Care Research Group, **Dr. J. C. Shank**, Cedar Rapids, was elected to board of directors. Dr. Shank is research director of the Cedar Rapids Medical Education Program. At the meeting two third-year residents of the Cedar Rapids Family Practice Residency Program, **Dr. Donald Hilliard** and **Dr. Thomas A. MacKnight**, presented research papers on primary care. Dr. Hilliard presented a paper entitled, "Unplanned Pregnancies in Cedar Rapids, Iowa," and Dr. MacKnight's paper, co-authored with **Dr. John N. Allhiser**, was entitled, "Lymphadenopathy in Family Prac-

tice." The MacKnight-Allhiser paper received honorable mention in the outstanding resident physician presentations. . . . **Dr. William Rosenfeld**, Mason City, spoke on his experiences in Thailand with the Iowa SHARES program at recent meeting of the Iowa Society for Medical Technology. . . . **Dr. Tom D. Throckmorton**, Des Moines, received the Garden Club of America's Distinguished Service Medal at the organization's 69th annual awards dinner at Norfolk, Virginia. Dr. Throckmorton is sometimes referred to as the "Dean of Daffodils." He is a past president of the American Daffodil Society and a recent recipient of its Silver Medal, which is presented annually to the person considered to have made the greatest contributions to the Society.

**Dr. Carol L. Plott**, Spirit Lake, has become medical advisor at a U. S. compound in Bontang, Kalimantan, on the island of Borneo, a part of an Indonesian island chain southeast of Singapore. Dr. Plott has practiced medicine and surgery at the Spirit Lake Medical Center since 1965. . . . **Dr. Edward J. Hertko**, Des Moines, was guest speaker at a recent meeting

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of the Fort Madison Area Diabetes Unit. Dr. Hertko is the director of the Department of Postgraduate Education at Iowa Methodist Medical Center at Des Moines. . . . **Dr. Sidney Brody**, Ottumwa, **Dr. Percy Harris**, Cedar Rapids, and **Dr. Alan Nelson**, Belmond, received distinguished service awards for outstanding contributions to high school athletics at the Iowa Football Banquet of Champions at Iowa State University in Ames.

Two retired faculty members of U. of I. College of Medicine were recipients of 1980 U. of I. Distinguished Alumni Awards — **Dr. Alson E. Braley** and **Dr. Emory D. Warner**. Dr. Braley was professor and head of the U. of I. Department of Ophthalmology from 1950 until his retirement in 1967. Dr. Warner, professor emeritus of pathology, headed that department from 1945 to 1970. Dr. Braley received the M.D. degree at U. of I. College of Medicine in 1931 and Dr. Warner in 1929. . . . **Dr. Raja Akbar** has been named superintendent of the Mental Health Institute at Independence. Dr. Akbar received the M.D. degree from King Edward Medical College, University of Punjab in Lahore, Pakistan. He completed his residency at MHI at Independence and has been a staff member since 1976. . . . **Dr. Sandy Gonzalez**, Nora Springs, and **Dr. Pablo Recinos**, Mason City, were program participants at a workshop on "Accidents on the Farm." The workshop was organized after a recent accident took the life of a Nora Springs farmer. Emergency techniques for shock, excessive bleeding and other injuries were demonstrated.

**Dr. Steve Burgfechtal** will join the family practice of **Dr. Mark Taylor** in Sioux City in August. Dr. Burgfechtal received the M.D. degree at U. of I. College of Medicine and will complete his family practice residency in June. . . . Officers of the Iowa Radiological Society elected at their recent annual meeting are — **Dr. Donald Kahle**, Dubuque, president; **Dr. Benjamin Broghammer**, Mason City, president-elect; **Dr. Jeffrey Watters**, Des Moines, secretary-treasurer; **Dr. Steven Van Houten**, Ames, member at large, Executive Committee; and **Dr. Joe Hall**, Des Moines, alternate counselor. . . . **Dr. Luis Garcia**, Mason City, was

## Tenuate®

(diethylpropion hydrochloride NF)

## Tenuate Dospan®

(diethylpropion hydrochloride NF) controlled-release

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### Brief Summary

**INDICATION:** Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

**CONTRAINDICATIONS:** Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

**WARNINGS:** If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychological dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

**PRECAUTIONS:** Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

**ADVERSE REACTIONS:** **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

**DOSAGE AND ADMINISTRATION:** Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

**OVERDOSAGE:** Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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References: 1. Citations available on request from Medical Research Department, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon [Dillon], R.H., and Leyland, H.M.: A comprehensive review of diethylpropion hydrochloride. In, Central Mechanisms of Anorectic Drugs, S. Garattini and R. Samanin, Ed., New York, Raven Press, 1978, pp. 391-404.

# Merrell

9-4672 (Y957A)



guest speaker at a recent meeting of the Wright County Medical Society. Dr. Garcia discussed skin flaps. . . . **Dr. Hans Zellweger**, professor emeritus, Department of Pediatrics, U. of I. College of Medicine, was guest speaker at a recent meeting of the Scott County Medical Society. Dr. Zellweger spoke on medical genetics. . . . **Dr. Samuel W. Williams**, Maquoketa, has been certified by the American Board of Quality Assurance and Utilization Review Physicians, Inc. Dr. Williams is a board member and physician advisor of the Iowa Foundation for Medical Care and fellow of the American College of Utilization Review Physicians.

**Dr. Vera V. French**, Davenport, was recognized recently for her many years as director of the Community Mental Health Center in Scott County. Dr. French, who recently retired, joined the CMHC staff in 1961 and became its director in 1968. . . . **Dr. Jerry Wille** has opened a family practice at the Atlantic Medical Center. A native of Hartley, Iowa, Dr. Wille received the M.D. degree at U. of I. College of Medicine and had his family practice residency

in Mason City. . . . **Dr. Hal B. Richerson**, professor, Department of Internal Medicine, U. of I. College of Medicine, has been appointed by the American Medical Association Board of Trustees to the AMA Residency Review Committee for Allergy and Immunology. . . . The following Iowa physicians have been named fellows of the American College of Physicians — **Dr. Charles M. Helms**, **Dr. Reynold Spector** and **Dr. Carl W. White**, all of Iowa City; **Dr. Shivaram T. Shetty**, Mason City; and **Dr. John J. Ellis, II**, Muscatine. . . . **Dr. Kenneth McMains** began family practice in Denver in July. Dr. McMains received the M.D. degree at the University of Guadalajara in Mexico; interned at Swedish Covenant Hospital in Chicago, and completed his family practice residency in Waterloo. . . . **Dr. James A. Clifton**, Roy J. Carver professor of medicine at U. of I. College of Medicine, has assumed the chairmanship of the American Board of Internal Medicine. Dr. Clifton is only the second Iowan ever to head the ABIM. The late Dr. Walter Bierring was instrumental in the founding of the board in 1936 and was elected its first chairman.

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**Dr. Ted Akers** has joined **Dr. Greg Hoekstra** in family practice in Toledo. A native of Creston, Iowa, Dr. Akers received the M.D. degree at U. of I. College of Medicine and completed his family practice residency at St. Joseph's Mercy Hospital in Mason City. . . . At the annual meeting of the Waverly Municipal Hospital medical staff, **Dr. Daniel B. Eggers** was named president; **Dr. Michael T. Berstler**, vice president, and **Dr. David B. MacMillan**, secretary-treasurer. All are Waverly physicians. During the meeting, **Dr. Hosung Chung**, Waterloo, gave a presentation on the treatment of severe head injuries. . . . **Dr. Richard J. Bealka**, child psychiatrist, Mental Health Institute, Independence, has been reappointed by Governor Robert Ray to the State Advisory Council on Mental Health. . . . **Dr. Kenneth D. Dolan**, professor of radiology, U. of I. College of Medicine, was elected president of the American Society of Head and Neck Radiology at the group's recent annual meeting in Palm Beach, Florida.

## DEATHS

**Dr. Howard C. Palmer**, 58, West Liberty, died July 5 at University Hospitals in Iowa City. Dr. Palmer received the M.D. degree at U. of I. College of Medicine. He began his medical practice in Nichols and for the past 27 years has practiced in West Liberty, three years with his son, Dr. Steven Palmer.

**Dr. Floyd A. Springer**, 79, former Des Moines physician, died July 22 at a hospital in Branson, Missouri. Dr. Springer received the M.D. degree at U. of I. College of Medicine. He practiced medicine in Des Moines until his retirement in 1970 when he moved to Missouri. Dr. Springer was a member of the Rocky Mountain Radiological Society and a U. S. Navy veteran of World War II.

**Dr. Kenneth McGuire**, 65, Keota, died July 25 at Maplewood Manor in Keota. Dr. McGuire received the M.D. degree at the U. of I. College of Medicine and interned at Sacred Heart Hospital in Spokane, Washington. He began his medical practice in Keota in 1942, retiring in 1969.

## Identification & Management of Ear Problems in School Age Children

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One day registration fee is \$50 for physicians (October 22); \$30 for allied health professionals (October 23); \$10 for students and residents of medicine and allied health fields. Includes seminar, coffee breaks and luncheon.

ACCREDITATION: AMA — 6 Category 1 Hours; AOA — 7 Category 2-D Hours; Amer. Acad. Family Phy. — 6 Hours; Kansas State Board Nursing — 6 Contact Hours; Missouri State Board of Nursing — 6 Contact Hours. For additional information contact — Forrest H. Kendall, Jr., M.D., 1010 Carondelet, Suite 224, Kansas City, Missouri 64114, 816/942-7200.

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# IOWA MEDICAL ASSISTANTS

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## REFLECTIONS

Twenty-five years in medical assisting can be compared with "Two men looked out from prison bars . . . one saw mud, the other saw stars."

The organizers of AAMA, looking through the windows of the 50 states with dedication and foresight, must have seen the "stars." Maxine Williams, an AAMA pioneer, who so successfully managed the early years of the organization, worked diligently toward our education needs. At the present time a scholarship is named in her honor.

Perhaps the objectives of the AAMA would

## POLK ANNIVERSARY

The Des Moines Chapter was organized January 19, 1955 and celebrated its 25th anniversary with a special program in June to honor the charter members, 25 past presidents and original advisors.

Two of the three original advisors, Edwin Kingery, past executive secretary of the Polk County Medical Society and Parker K. Hughes, M.D., attended. Dr. Floyd A. Springer, who since has died, was unable to attend.

Ted Sloma, executive secretary of Polk County Medical Society, current advisor, served as Master of Ceremonies. Donald Taylor, M.D., physician-advisor and Frances Harold Mills, author and consultant from Waterloo, Iowa were present.

Material for this page is compiled by Frances M. Hansen, CMA-A, of Sioux City.

be worth repeating at this time: *To inspire its members to give honest, loyal and efficient service to the profession and to the public which they serve. To strive at all times to cooperate with the medical profession in improving public relations. To provide educational services to increase the knowledge and professionalism of its members and to stimulate a feeling of fellowship and cooperation among its state societies and local chapters.*

Working side by side with the AMA, the various state medical societies, and also local medical societies, has assured the AAMA of growth. The need for this type of an organization was readily visible and encouraged.

The further establishment of an executive office in Chicago under the capable direction of Dene Murray, CAE, was another giant step forward. The AAMA physician-advisory boards, past and present, have given much time and talent to encourage and advise. To each and every one who has served on this board we owe a debt of gratitude.

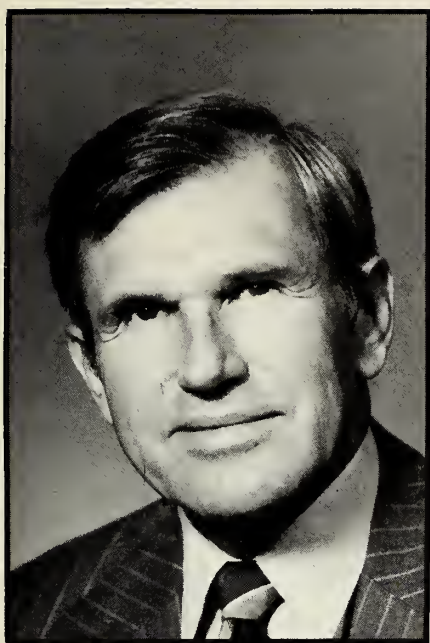
To the IMS physician-advisors, as well as the local level advisors, and to each and every employer of medical assistants — a special THANK YOU for your loyalty to our group in the past. The Iowa Society of AAMA wishes to thank the Iowa Medical Society for its loyalty to our group by providing a "Medical Assistant" page in the IMS JOURNAL.

Seven of the 37 charter members were present. Nineteen of the 25 past presidents attended.



CURRENT OFFICERS — Above are the 1980-81 officers of the Iowa Society, AAMA, officers, left to right, Danna Haney, CMA-AC, vice-president, Des Moines; Sherry Chidester, CMA-A, president-elect, Des Moines; Pam Christensen, CMA, secretary, Mason City; Gwen Jansen, CMA-A, treasurer, Sioux City; and Doris Liggett, CMA-AC, president, Des Moines.





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## PRESIDENT'S PRIVILEGE

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**F**OR MANY YEARS the Iowa Medical Society has offered a Fall Leadership Conference. The 1980 FLC is at Society Headquarters on Thursday, October 23. This session is principally for county and state society officers, for chiefs of hospital medical staffs, for those physicians in various leadership capacities. However, any physician, with the interest and desire, is welcome to attend.

Time is spent that day looking at current medical topics. The 1980 program includes speakers from various perspectives. For example, we have a presentation this year by B. J. Anderson, J.D., the personable and knowledgeable assistant general counsel of the AMA. She is one of the best informed individuals in the country on legal issues facing medicine today.

Subjects we'll look at October 23 include the dispensing physician, the future of the physician's assistant, the Iowa success potential for the HMO, etc. We've asked Michael Gartner, president/editor of the DES MOINES REGISTER AND TRIBUNE, to tell us what's right and what's wrong with American medicine.

I wanted to call attention to the 1980 IMS Leadership Conference. Maybe in doing so I can arouse you a bit. We talk a lot about leadership. Is it more lip service than actual consci-

entious involvement? Do we really discharge the responsibility we have to provide our medical profession — and the patients it serves — with the leadership that's needed?

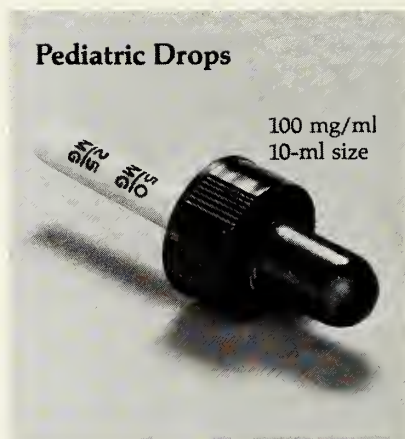
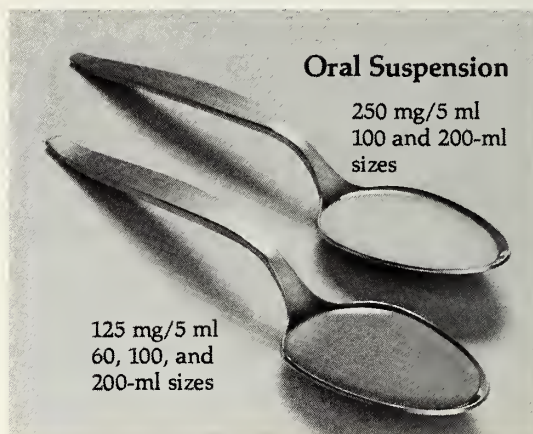
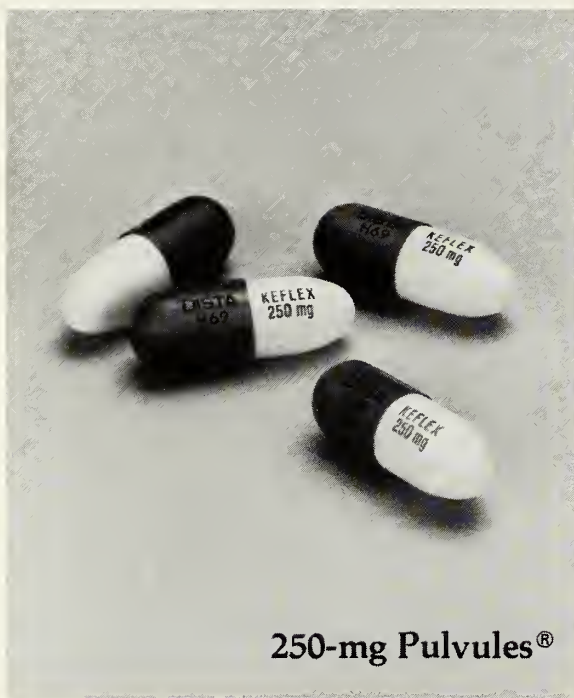
Obviously, being an uninformed leader is about as bad as not being involved at all. So we have a duty to stay up on the key issues. This can be done in various ways, e.g., by reading (the AM NEWS is an excellent source of socioeconomic information) or by attending good meetings (the IMS Fall Conference for example). Each day, at work or socially, we receive questions about the position of medicine in specific areas. Whether it comes from the local newspaper reporter or a next-door neighbor we need to answer these questions accurately and forthrightly.

It's our job to know what's going on. And it's our professional duty to accept a measure of leadership responsibility. I challenge you in this regard.

*William R. Bliss, M.D.*

**William R. Bliss, M.D.**

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# Anterior Parasternal Mediastinotomy

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TISSUE DIAGNOSIS of lesions situated in the anterior and superior mediastinum, in the pulmonary hila or in the adjacent lung parenchyma is usually done by endoscopic biopsy, extrathoracic lymph node biopsy, cytologic studies and occasionally by major thoracotomy with definitive excision.

For several years sporadic reports have appeared in the literature describing another diagnostic technique called Anterior Parasternal Mediastinotomy (APM). Reports on mediastinoscopy are voluminous compared to the few found on APM. The authors believe the usefulness and merits of this procedure have not been fully appreciated.

A brief historical summary of the development of the various diagnostic procedures reveals that Daniels<sup>1</sup> introduced scalene node biopsy in 1949. Cervical mediastinal explora-

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*The authors regard APM as a useful diagnostic tool in the evaluation of lung and mediastinal tumors. They suggest it is to be preferred over mediastinoscopy in certain situations.*

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tion was reported by Radner<sup>3</sup> in 1953 and by Harkins<sup>2</sup> in 1954. In 1959, Carlens<sup>4</sup> introduced mediastinoscopy as a diagnostic technique. Although McNeill and Chamberlain<sup>6</sup> performed the first APM in 1956, it was not until 1965 that the first series of cases of APM appeared in the literature.<sup>5</sup>

## CASE REPORTS

*Case 1:* A 62-year-old male was admitted to Mercy Hospital, Des Moines, Iowa with complaints of hoarseness and cough. In August 1976, he had a distal esophago-proximogastrectomy for adenocarcinoma of the lower one third of the esophagus. He received 4,500 rads cobalt therapy delivered in 25 fractions over 36 days.

Subsequent chest films revealed a mass in the upper mediastinum. The radiologist was reluctant to use additional therapy without a histological diagnosis.

On May 8, 1977, left APM was performed and the mass removed. Histological study re-

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Doctor Catherine is a general surgeon in private practice in Des Moines, Iowa. Deborah Larson was a medical student on rotation at Mercy Hospital in Des Moines at the time of the preparation of this paper.

vealed it to be a metastatic adenocarcinoma. The patient then received additional cobalt therapy.

*Case 2:* A 65-year-old female was admitted March 1977 to Northwest Hospital, Des Moines, Iowa, in acute respiratory distress. Chest x-ray and tomograms suggested a right hilar mass. Cytologic studies of sputum specimens were negative for tumor cells. On April 7, 1977, bronchoscopy and scalene node biopsy were done. The supraclavicular nodes as well as bronchial washings were negative for malignancy or any other specific pathologic process.

With yet no diagnosis, the patient's clinical course deteriorated in an alarmingly rapid fashion in spite of vigorous and aggressive supportive therapy. On April 8, 1977, right APM was performed and biopsy specimens were positive for oat cell carcinoma. The patient was referred for radiotherapy and chemotherapy.

#### INDICATION

APM is indicated when conventional methods fail to establish a diagnosis during the evaluation of an intrathoracic lesion. In the case of a lung lesion, a negative APM biopsy, when preceded by negative bronchoscopy and scalene node biopsy, suggests the lesion is at least operable. On the other hand, the approach to the patient who has a negative bronchoscopy and scalene node biopsy, but has mediastinal intranodal involvement, may or may not be surgical. In 1967, Pearson from the University of Toronto observed that 5 year survival was less than 10% for surgically treated patients with bronchial carcinoma already spread to the mediastinum.<sup>10</sup> On the other hand, at the 1974 meeting of the Society of Thoracic Surgeons, Pearson pointed out that patients with favorable cell type and with ipsilateral mediastinal metastasis that are still intranodal and microscopic remain worthwhile surgical candidates with respect to 5 year survival rates when combined with pre-operative irradiation.<sup>9</sup>

APM in Case 2 illustrates the value of this procedure in the patient who is too critically ill to tolerate a formal thoracotomy and for whom the diagnosis remained undetected after conventional diagnostic methods. The patient with restricted or limited cardio-pulmonary reserve also falls into this category.

Case 1 is an example of the use of APM to

document recurrent disease and its cell type after it has extended into the mediastinum and while additional therapy is being considered.

Identification of benign or malignant mediastinal tumors occurring, either primarily or secondarily, can be established readily with APM. Sometimes definitive resection can be accomplished with this approach. Sarcoid, lymphoma, sarcoma, thymoma, metastasis from breast primary, tuberculosis and eosinophilic granuloma have all been exposed using this technique.<sup>6</sup>

#### TECHNIQUE

The APM can be performed under local or general anesthesia. The latter offers more comfort to both the patient and the surgeon.

The patient is placed in the supine position. A vertical incision is made on either the right or left side just lateral to the lateral border of the sternum starting just above the second costal cartilage and continued to the fourth costal cartilage. Some authors prefer a transverse incision made over the second rib.<sup>6</sup> In the opinion of the surgeon author, this approach results in less exposure compared to the vertical incision. After incising and reflecting the pectoralis muscle, subperichondrial resection of the second and third or third and fourth cartilages is carried out. Approximately one to two centimeters of the cartilages are resected. The vertical incision is continued through the intercostal muscle and posterior perichondrium. The internal mammary vessels are encountered and are either retracted or ligated. A plane is developed directly behind the sternum. This is safely accomplished using blunt dissection. The anterior mediastinum has thus been entered. The pleura is identified and reflected laterally to avoid inadvertent pneumothorax. On the right side the innominate vein, the superior vena cava, ascending aorta and pericardium are readily seen. A plane between the superior vena cava and ascending aorta exposes the anterior tracheal wall with its associated nodal chain. The subcarinal nodes are accessible via this approach.

On the left side, the dissection is carried out in a similar manner but the aortic arch prevents exposure of the paratracheal nodes and subcarinal nodes. The sub-aortic nodes and nodes along the left pulmonary artery can be seen from the left side. Hilar and mediastinal masses presenting to the left on x-ray are easily



accessible. If desired, direct lung or pleural biopsy may be performed from either side. Underwater seal drainage is needed if the lung is actually biopsied. Only temporary suction is required if the pleural cavity is entered (by design or inadvertently) without biopsy.

The procedure is tolerated well by the patient. There is relatively little post-operative discomfort.

#### DISCUSSION

It is inevitable and appropriate that APM and mediastinoscopy should be compared. Jolly, *et al*<sup>8</sup> studied a large number of patients to compare the diagnostic results obtained by APM and mediastinoscopy. The results of this study, which is the largest appearing in the literature to date, favors APM as the overall superior procedure. It resulted in 70% diagnostic yield compared to 30% after mediastinoscopy. While both mediastinoscopy and APM are acceptable approaches for right-sided lesions, mediastinoscopy alone has been virtually abandoned by some authors for suspect lesions in the left lung and hilum because of their tendency to metastasize to the anterior mediastinum which is not accessible at mediastinoscopy.<sup>8, 9</sup> In addition to the anterior mediastinum, it should be pointed out that mediastinoscopy also fails to expose the sub-aortic group of nodes for biopsy. Stemmer<sup>5</sup> believes the right-sided approach provides most information about the mediastinal structures, including radiographically prominent left-sided lesions. Pearson<sup>11</sup> combines mediastinoscopy and left mediastinotomy for left-sided lesions.

## CHIROPRACTIC RULING

In September Iowa District Court Judge Robert O. Frederick of Winterset ruled a chiropractor may not draw blood, give diet information or perform acupuncture.

This court decision was reported in the press and is based on a six-year old case brought by the State of Iowa against a Pella chiropractor. The ruling is said to have the effect of nullifying rules approved in 1978 by the Board of Chiropractic Examiners. These rules grant the chiropractor who has had training in the proce-

Other advantages of APM include (1) the capability to biopsy the lung or pleura and (2) the opportunity not only to visualize but palpate structures of the mediastinum. APM allows direct access to such complications of the biopsy as hemorrhage and/or inadvertent entering of the pleural cavities.<sup>6, 7, 8</sup> It cannot be denied that mediastinoscopy probably is a relatively minor procedure compared to APM. The operating time is shorter and perhaps there is less postoperative discomfort. Offsetting these advantages is the fact that successful diagnosis is made in only about half of the cases with mediastinoscopy as compared to APM. The complications for the 2 procedures are roughly the same and include not only the usual problems of infection, etc., but also pneumothorax and severe hemorrhage.

#### SUMMARY

An attempt has been made to renew interest in Anterior Parasternal Mediastinotomy as a useful diagnostic tool in the evaluation of lung and mediastinal benign and malignant tumors.

APM can be used with the established diagnostic procedures of bronchoscopy and scalene node biopsy, particularly when these relatively simple procedures fail to provide a diagnosis. APM has been compared with mediastinoscopy with the evidence suggesting APM is the procedure of choice in certain situations.

#### REFERENCES

The references noted in this paper are available either from the authors or the JOURNAL OF THE IOWA MEDICAL SOCIETY.

dure to draw blood and to give nutritional advice.

In his ruling Judge Frederick concluded, even though chiropractic practice was expanded in 1974, it is still illegal to go beyond treatments specifically allowed by law — spinal adjustments and use of heat, cold, exercise and supports.

As this is prepared, the results are not known of an announced effort by the BCE to obtain a stay of the decision by Judge Frederick by the Iowa Supreme Court. If the decision is appealed and sustained by the high court it could presumably negate the rules approved by the BCE in 1978.

# Iowa Perinatal Mortality Selected Maternal Risk Characteristics — 1974-1978

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Des Moines, Iowa

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*The Iowa perinatal mortality statistics for 4 recent years are heartening. Ongoing emphasis needs to be given to those at highest risk if our experience is to continue to improve. Certain demographic risk factors are discussed here.*

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VARIOUS demographic risk categories are considered in this analysis of perinatal mortality. The continued improvement in Iowa perinatal outcome is reflected by a 22.8% decrease in perinatal mortality between 1974 and 1978 (Figure 1). There was an associated decrease in infant mortality. These are favorable findings which suggest the possibility of further improvement.

This analysis of data is restricted to selected risk characteristics which are recorded on birth certificates and have proved useful as indicators of perinatal outcome. The mortality data utilized is drawn from a matching of birth certificates with corresponding death certificates.

## REVIEW OF LITERATURE

Donnelly<sup>1</sup> and Shapiro<sup>2</sup> identified the elevated risk of perinatal mortality of infants of very young and very old mothers compared with those of mothers between the ages of 20 and 29. These authors concluded that maternal age is a significant factor in perinatal mortality.

Even though the perinatal mortality dif-

ferential between in and out of wedlock pregnancy has narrowed, it is still a substantial differential, and out of wedlock pregnancy continues to be a valid indicator.<sup>3</sup>

Both Donnelly<sup>4</sup> and Shapiro<sup>5</sup> have noted that multi-parity may be associated with an increased risk for a bad perinatal outcome. These authors also identified the high correlation between a poor outcome and pregnancy for women who have had a previous fetal death or a death of a previous live born infant. Later studies by Donnelly<sup>6</sup> demonstrated higher mortality in the least favored economic classes and further showed the best indicator of economic status to be that of the educational attainment of the mother. Those who had not completed a high school education were at greater risk for mortality.

Further confirmation of these indicators as risk criteria for perinatal mortality was made in The Collaborative Perinatal Study reported in 1972.<sup>7</sup> In this study, women with any of the following characteristics had significantly higher mortality when compared with women who had none of them. The risk characteristics were as follows: (1) they were under 18 or over 34 years of age, (2) they were unmarried, (3) they had completed less than a high school

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education, (4) they had a previous stillbirth, (5) they were of a parity greater than 3.

#### LIVE BIRTHS

The characteristics of women who experienced live births between 1974 and 1978 in Iowa are displayed on Table I. In this time there was a 9.8% increase in live births with a significant decline in births to women under the age of 18 and over the age of 34. There was also a significant decrease in births to women who were experiencing their fourth or greater pregnancy as well as to women who had less than a high school education. In contrast, there was an increase in the number of women who had had a previous fetal death or who delivered out of wedlock.

Overall, there was no significant change in the total unduplicated count of women who had one or more of these characteristics (high risk) as compared to women who displayed none of these characteristics (low risk).

#### FETAL MORTALITY

The characteristics of women who experienced fetal deaths are displayed in Table II. During the 5-year period, there was a 22% decrease in total Iowa fetal mortality with an 18% decrease in mortality for high-risk women as compared to a 27% decrease in low-risk women.

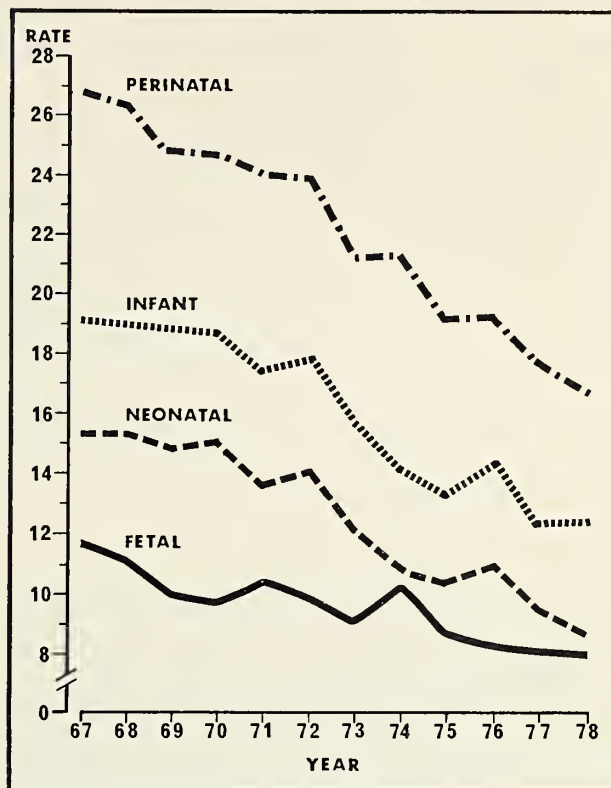
There were significant decreases in fetal mortality for women under the age of 18 and over 34, women who had experienced their fourth or greater pregnancy, women who had a previous fetal death, and women who had less than a high school education. Women who had a previous live born now dead or who delivered out of wedlock did not show a consistent trend.

#### NEONATAL MORTALITY

The characteristics of women who displayed a neonatal death are shown in Table III. During the same 5-year period, there was a 23% decrease in total neonatal mortality with a 17% decrease for the high-risk group as compared to a 30% decrease in the low-risk group.

In this group there were decided decreases in mortality among women who had less than a high school education, women who delivered out of wedlock, women who had previous live-born children who later died and for women over the age of 34; there was no consistent

#### FETAL, NEONATAL, PERINATAL, AND INFANT DEATHS IOWA 1967 - 1978



Fetal and Perinatal rate per 1,000 events.  
Neonatal and Infant rate per 1,000 live births.

Figure 1

trend for women who were less than the age of 18 or for women who were experiencing their fourth or greater pregnancy.

#### PERINATAL MORTALITY

During this period of time, the perinatal mortality decreased 23%. The rate decreased 17% in high-risk women while the reduction in low-risk women was 29%. Perinatal mortality was lower in each of the high-risk groups (Table IV).

#### DISCUSSION

If Iowa is to experience a further reduction in fetal, neonatal and perinatal mortality, it is logical that emphasis be placed on those women at risk who produce a disproportionate mortality. In 1978, the high-risk group experienced a perinatal mortality which was 190% higher than that of the low-risk group. The neonatal mortality was 223% and the fetal mortality was 160% higher in the high-risk group. A periodic review of vital data will identify any

TABLE I  
NUMBER AND PERCENTAGE OF LIFE BIRTHS BY MATERNAL CHARACTERISTICS  
IOWA, 1974 — 1978

	1974		1975		1976		1977		1978	
	No.	%	No.	%	No.	%	No.	%	No.	%
Age <18	2,338	5.8	2,387	5.8	2,199	5.3	2,201	4.9	1,937	4.3
>34	1,732	4.3	1,688	4.1	1,590	3.8	1,656	3.7	1,635	3.7
Parity >3	4,819	12.0	4,491	10.9	4,250	10.2	4,384	9.8	4,125	9.5
PFD	5,765	14.3	6,044	14.6	6,272	15.1	6,587	14.7	7,305	16.4
PLBND	1,303	3.2	1,256	3.0	1,236	3.0	1,239	2.8	1,248	2.8
OW	2,960	7.4	3,343	8.1	3,437	8.3	3,950	8.8	4,116	9.2
Educ <12	7,153	17.8	7,202	17.4	7,069	17.0	7,192	16.0	6,794	15.2
Total	40,178	100.0	41,358	100.0	41,570	100.0	44,898	100.0	44,559	100.0
High Risk	16,463	41.0	16,978	41.1	16,849	40.5	17,703	39.4	17,806	40.0
Low Risk	23,715	59.0	24,380	58.9	24,721	59.5	27,195	60.6	26,753	60.0

PFD — Previous Fetal Death

PLBND — Previous Live Born Now Dead

OW — Out of Wedlock

changes in the distribution of these characteristics in the population of women.

Greater emphasis needs to be placed on effective education of the public as to the importance of early prenatal care, especially as it relates to the population of women at greatest risk. Effective case-finding outreach and follow-up programs need expansion to identify high-risk women and facilitate their entrance into existing systems of care. The characteristics of risk will always be drawn from the experiences of the most recent years, and it is necessary to re-evaluate these periodically.

The data for individual counties and/or hospitals is available to facilitate planning for the development of effective case-finding, outreach, and follow-up services since each community may have individual differences in the childbearing population.

In summary, a review of demographic risk characteristics can aid in the identification of those groups of population which are at increased risk. From a practical standpoint, each pregnant woman should be asked 6 questions which will help to clarify her risk status and determine the need for follow-up. Those ques-

TABLE II  
FETAL DEATHS, NUMBER AND RATE BY MATERNAL CHARACTERISTICS  
IOWA, 1974 — 1978

	1974		1975		1976		1977		1978	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Age <18	31	13.1	25	10.4	29	13.0	29	13.0	23	11.7
>34	39	22.0	25	14.6	25	15.5	27	16.0	23	13.9
Parity >3	68	13.9	49	10.8	41	9.6	59	13.3	51	12.2
PFD	78	13.3	75	12.3	78	12.3	76	11.4	72	9.8
PLBND	17	12.9	16	12.6	23	18.3	16	12.7	26	20.4
OW	48	16.0	45	13.3	45	12.9	66	16.4	62	14.8
Educ <12	95	13.1	72	9.9	70	9.8	67	9.2	61	8.9
Total	424	10.4	369	8.8	352	8.4	373	8.2	362	8.1
High Risk	211	12.7	182	10.6	189	11.1	209	11.7	188	10.4
Low Risk	213	8.9	187	7.6	163	6.6	164	6.0	174	6.5

PFD — Previous Fetal Death

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TABLE III  
NEONATAL DEATHS, NUMBER AND RATE BY MATERNAL CHARACTERISTICS  
IOWA, 1974—1978

	1974		1975		1976		1977		1978	
	Na.	Rate	Na.	Rate	Na.	Rate	Na.	Rate	Na.	Rate
Age <18	54	23.1	42	17.6	38	17.3	36	16.4	39	20.1
>34	21	12.1	22	13.0	19	11.9	19	11.5	16	9.8
Parity >3	59	12.2	51	11.4	46	10.8	40	9.1	48	11.6
PFD	86	14.9	91	15.1	84	13.4	73	11.1	97	13.3
PLBND	48	36.8	38	30.3	41	33.2	27	21.8	29	23.2
OW	69	23.3	57	17.1	61	17.7	62	15.7	56	13.6
Educ <12	<u>122</u>	<u>17.1</u>	<u>107</u>	<u>14.9</u>	<u>100</u>	<u>14.1</u>	<u>95</u>	<u>13.2</u>	<u>87</u>	<u>12.8</u>
Total	446	11.1	425	10.3	428	10.3	421	9.4	380	8.5
High Risk	252	15.3	236	13.9	236	14.0	212	12.0	227	12.7
Low Risk	194	8.2	189	7.8	192	7.8	209	7.7	153	5.7

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tions are: What is your age? How many pregnancies have you had? How many years of education have you completed? Have you had a previous stillbirth? Have you had a previous child born alive who is now dead? What is your marital status?

With the exception of education, each of these questions is normally asked in an initial history, but unfortunately the responses to the questions are seldom utilized to assess possible risk for a bad outcome of pregnancy.

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TABLE IV  
PERINATAL DEATHS, NUMBER AND RATE BY MATERNAL CHARACTERISTICS  
IOWA, 1974—1978

	1974		1975		1976		1977		1978	
	Na.	Rate	Na.	Rate	Na.	Rate	Na.	Rate	Na.	Rate
Age <18	75	31.7	67	27.8	67	30.1	65	29.1	62	31.6
>34	60	33.9	47	27.4	44	27.2	46	27.3	39	23.5
Parity >3	127	26.0	100	22.0	87	20.3	99	22.3	99	23.7
PFD	164	28.1	166	27.1	162	25.5	149	22.4	169	22.9
PLBND	65	49.2	54	42.5	64	50.8	43	34.3	55	43.2
OW	117	38.9	102	30.1	106	30.4	128	31.9	118	28.2
Educ <12	<u>217</u>	<u>29.9</u>	<u>179</u>	<u>24.6</u>	<u>168</u>	<u>23.5</u>	<u>162</u>	<u>22.3</u>	<u>148</u>	<u>21.6</u>
Total	870	21.4	794	19.0	780	18.6	794	17.5	742	16.5
High Risk	463	27.8	418	24.4	425	24.9	421	23.5	415	23.1
Low Risk	407	17.0	376	15.3	355	14.3	373	13.6	327	12.1

PFD — Previous Fetal Death

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## COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### "INFORMED" CONSENT

It is difficult to really inform a patient when consent is sought for a medical or surgical procedure. Recent evaluations of consent forms show the difficulty in providing adequate and understandable information to the patient.<sup>1</sup> Part of the failure to inform occurs when the patient scans the consent form hastily without reading it carefully, or perhaps does not read it at all because of a mistaken belief the contents are more for the protection of the physician and the legal documents are to be signed as a manner of procedure.

Most hospital consent forms are prepared by legal counsel to meet the desires of the medical staff and to protect the hospital. Unfortunately, these documents are complicated in wordage and phraseology. One study disclosed that in a series of surgical consent forms subjected to analysis comprehension best occurred if read by an upper division undergraduate or a graduate college student.<sup>2</sup> Four of the five were written at a level of a scientific journal, and the other of a specialized academic magazine. These documents are understood by physicians and lawyers, and would stand up in the courts, but remain essentially a mystery to the patient.

The proper consent procedure is said to have two major components. First, there is the oral

explanation, with adequate time given to answer questions. Secondly, the content of the written consent form must be complete and valid, i.e., it must contain all the information necessary for the patient to make a reasonable, intelligent and informed decision. Furthermore, it must be readable and understandable to the patient. It has been suggested the final form should be understandable at the 7th/8th grade level. This is not to indicate that the form should be so simple the basic needs are omitted. However, the language can be simplified to help with understanding at the lower end of the reading scale. Insurance policy writers have come to realize in recent years that a policy can be written in simple terms without losing the legal strength needed to protect all interested parties.

Let's inform the patient in a reasonable and honorable way. He will be less likely to search out excuses for subsequent litigation, and he will realize the medical and legal professions want to be fair and reasonable and responsive to the patient's level of understanding. — M.E.A.

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## LETTERS TO THE EDITOR

### METRIZAMIDE MYELOGRAPHY

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*This letter to the editor offers a thoughtful opinion on metrizamide myelography. Its thrust is somewhat different from that of a paper published by the IMS JOURNAL in February. The case is made here for use of electromyography in the diagnostic effort.*

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Dear Doctor Alberts:

THE ARTICLE, *Metrizamide Myelography: Report of 100 Cases* in the JOURNAL OF THE IOWA MEDICAL SOCIETY (February 1980) helps in considering the use of this contrast material. However, certain implications are made about its value compared to electromyography (EMG). These deserve further consideration. Conceptually, an error occurs in comparing EMG and myelography as diagnostic tools in the investigation of disk pathology. This is akin to comparing apples and oranges in that myelography provides a visual analysis of the structural (anatomic) status of the disk, whereas an EMG study provides neurophysiologic information about the status of the nerve root and neural structures distal to the root; EMG should not be considered comparable or interchangeable with myelography.

Ideally, one would hope that myelogram could provide 100% accuracy in comparison to surgery as to the status of the integrity of structure of the disk since both are anatomic pursuits. In reality, studies by Ford and Key,<sup>1</sup> Leader and Rossell,<sup>2</sup> Crue, Pudenz and Sheldon<sup>3</sup> and Knutsson<sup>4</sup> have varied in this comparison from 67 to 86% accuracy and are particularly dissatisfying at the L5-S1 level, one of the most common sites of pathology.

In this report of metrizamide myelography it is impossible to determine what constituted the categorizations of excellent, good, fair or poor correlations of the myelogram, EMG and surgery as no definition is given as to how the

patient would be suited for each category, e.g., what is a fair correlation between myelography and surgery? Furthermore, there is no explanation of how the EMG's were interpreted and fit into a category. In acute radiculopathy, were 18-21 days elapsed for the acute changes to be apparent on EMG before surgical intervention? Was peripheral neuropathy considered an abnormal EMG study with no disk protrusion seen at surgery, which, of course, would yield a poor correlation of EMG to surgical findings? In this situation there would be no disk protrusion and the EMG could be considered abnormal.

Reading the EMG statements (on page 59) one might consider EMG to be of little value and fairly optional. Many who use electrodiagnostic evaluation believe EMG affords valuable information for the management of radiculopathies, whatever the cause. Knutsson<sup>4</sup> compared the clinical, EMG, myelographic (with water soluble contrast) and surgical findings of 205 patients undergoing disk surgery for lumbosacral root compression. The EMG was found of great value in selecting patients for surgery with the result that 93% of those operated had recovery or improvement of symptoms. The EMG was useful in identifying patients with radiculopathy who would have been missed had only myelography been performed. This was particularly true of L5-S1 disk pathology as noted previously.

In Knutsson's study of 60 patients with L5-S1 herniation seen at surgery, the herniation had been diagnosed by myelography in 37 (61.7% of the cases). In 14 (23.3%) of these 60 cases, myelography was normal and in 9 (15%), myelography was misleading. In the 60 surgical cases with L5-S1 herniation, positive EMG findings of radiculopathy were noted in 55 (91.7%). In 74 surgical cases which revealed disk herniation between L4 and L5, the herniation was diagnosed by myelography in 69 (93.2%). It failed to show herniation in 1 (1.4%) and was misleading in 4 (5.4%). EMG in the 74 patients with L4-L5 herniation revealed abnormal findings in 68 (91.8%). With herniations at L3-L4, myelography and EMG were both 100% accurate. Other studies suggest EMG is more accurate.<sup>1, 3, 5, 6</sup>

In working up a possible disk disorder, the clinician must be alert to several possibilities. Consideration must be given other etiologies

(Please turn to page 429)



for onset of pain, weakness or sensory impairment that myelographic studies will not identify, such as generalized peripheral neuropathies. Also local entrapment or compressive neuropathies, such as peroneal, sciatic, and femoral neuropathies, can commonly be missed or misdiagnosed. Lumbosacral plexopathies, Stoehr,<sup>7</sup> would also not be identified with myelography. Even with a structural disk abnormality and with a radiculopathy, many surgeons prefer more conservative nonsurgical management when possible to avoid a worsened condition postoperatively which may ensue in a patient with peripheral neuropathy post laminectomy.

Another concern is that disk disease is fairly common in our population. The frequency with which disk defects are seen on myelography in asymptomatic patients, without root involvement, i.e., absence of root compression or irritation, is unknown. The best diagnostic approach is a combination of studies. In patients operated for small disk defects, the recovery from symptoms may be related to a relative conservative back activity program carried out 2-6 weeks post operatively, more than relief of any nerve root problem. Many observers believe if there is no evidence of radiculopathy it is safe to manage the patient conservatively until EMG findings become evident. Even after EMG findings are present, many patients are managed well without surgery. Ideally, myelography should be reserved for patients where surgery is believed necessary. The EMG could well be used to determine which patients may require myelographic examination.

The possibility of chemical irritation (from partial herniation of content of nucleus pulposus) rather than compressive irritation of a nerve is also possible in radiculopathy. This could be the situation with positive EMG findings of radiculopathy without concurrent significant disk protrusion on myelographic examination.

The relative safety, as well as diagnostic accuracy and utility of EMG in evaluation of a patient with radiculopathy, makes it an ideal study for both outpatients and inpatients. It is hoped this discussion properly emphasizes the need for EMG in the diagnostic evaluation of the patient with radiculopathy and will help avoid the possible misunderstanding that EMG is not as valuable as myelography (as might be possible when reading the article of February 1980). — Marvin M. Hurd, M.D., Director, Electrodiagnostic Service, Iowa Methodist Medical Center, Des Moines, Iowa

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## USE OF RETIREES

Dear Doctor Alberts:

The idea of retiring "one of these days" probably occurs to Iowa physicians as frequently as it does to the general population. My day came and suddenly I was beset by emptiness. Playing golf, taking pictures, all my hobbies were just that, hobbies, when I was practicing medicine. When I had no primary function they became boring.

So, what could help me out of this predicament? And possibly help others? As with most physicians, practicing medicine is my life's priority. But still, after many years of it, I don't want to practice full tilt any more. I want to go to medical lectures and keep my interest up.

The idea of locum tenens work seemed appealing. Thinking on it some, I concluded there might be virtue in establishing a small cadre of senior physicians interested in this kind of activity. Assuming there may be such a

(Please turn to page 430)

## LETTERS TO THE EDITOR

(Continued from page 429)

group of doctors, how then can they best make their availability known to colleagues who might be interested in temporary or substitute coverage.

Well, maybe, a first step in the process is to provide this information in the JOURNAL OF THE IOWA MEDICAL SOCIETY. Advertise our availability! If those of us in the retired ranks who are interested in this concept were to provide our names to the IMS and form something of a pool, then when an active physician needs help for a week, two-weeks, or a month, he or she can get somebody from the pool.

Obviously, if the physician desiring temporary help knows his plans as much as six months in advance, then greater assurance could be given that someone from the pool would be available. With advance scheduling, the senior physician could probably arrange to be busy in perhaps several locations for a total of two to three months a year — which is probably what most would want. These semi-retired physicians might additionally be of help to communities lacking any medical coverage.

There are several important considerations here. First, it would probably not be advisable to work in your old office or even in your own town. Also, you must maintain professional liability insurance. And you must complete the necessary continuing medical education to retain licensure.

I am curious to know if other Iowa doctors in similar circumstances have interest in this idea. I would welcome any comments or support. The IMS JOURNAL has always made space available for locum tenens information; this might be expanded if any interest is generated.

There is a considerable amount of medical knowledge residing in the minds of those physicians who have chosen to leave the rigors of year-around practice. To use them (or us), however, on a reduced schedule basis would seem to have virtue for all involved. Let me hear from you if you want to pursue this idea. — Werner P. Pelz, M.D., 311 Third Avenue, Charles City, Iowa 50616

## Tenuate®

(diethylpropion hydrochloride NF)

## Tenuate Dospan®

(diethylpropion hydrochloride NF) controlled-release

AVAILABLE ONLY ON PRESCRIPTION

### Brief Summary

**INDICATION:** Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

**CONTRAINDICATIONS:** Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma, agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

**WARNINGS:** If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities, such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

**PRECAUTIONS:** Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

**ADVERSE REACTIONS:** **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

**DOSAGE AND ADMINISTRATION:** Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

**OVERDOSAGE:** Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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**References:** 1. Citations available on request from Medical Research Department, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon [Dillon], R.H., and Leyland, H.M.: A comprehensive review of diethylpropion hydrochloride. In, Central Mechanisms of Anorectic Drugs. S. Garattini and R. Samanin, Ed., New York, Raven Press, 1978, pp. 391-404.

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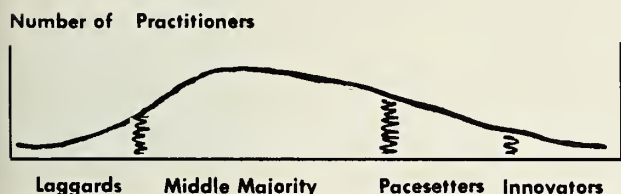


## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

### ARE YOU A LAGGARD?

Continuing education is often thought of as the learning of new information and skills and then the putting of them into action in one's practice. Whether one adopts innovations, when, and how one uses them has become an important arena of social science inquiry. A description often used to characterize a population in relation to the adoption of innovation is shown in this manner:



The number of true innovators is, of course, very small. Pacesetters, also called early adopters, pick up the new ideas and techniques of the innovators and are willing to try them out, and spread the word. Most people lie in the middle majority, although naturally there may be a great spread between the "almost pacesetters" and the "almost laggards." The laggards are exceedingly slow or reluctant, or both, about adopting innovation. (Sometimes they

turn out to be the "wise" ones, but not usually by the application of study, reasoning and experience, but only by blind happenstance.) The laggards are sometimes called the "bad apples in the barrel" that cause trouble or embarrassment for the rest of us.

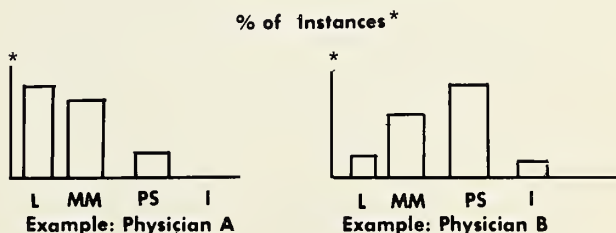
Just where to put the wavy vertical lines in the drawing is an interesting problem. Those pessimistic about the medical profession might wish to move much farther to the right the line that separates the laggards.

Another group of individuals is traditionally described: the facilitators. These persons come from any of the other categories and move back and forth to the facilitative function. Examples of persons who facilitate the adoption of innovations are teachers, editors, administrators, association executives, and governmental regulators.

***"The laggards are exceedingly slow or reluctant, or both, about adopting innovation. (Sometimes they turn out to be the 'wise' ones but not usually by application of study, reasoning and experience, but only by blind happenstance."***

It's doubtless simplistic or overgeneralizing to try to describe an entire profession with one diagram. A unique one would be needed for each specific innovation — at least it would if one wished to convert the wavy line to a straight, and therefore precise, vertical.

It might be possible to prepare a corresponding profile for each one of us, since naturally there is variation in our behavior and we may vary from being a pacesetter in some situations to a laggard in others. If you were to build a bar graph about yourself, like those shown below, what would be its shape? And does that shape satisfy you? And if not, do you know what to do about it?



Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

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# STATE DEPARTMENT/ PUBLIC HEALTH

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## IMMUNIZATION ACTIVITY

The Iowa Immunization Law is entering its third year of enforcement. Results have been dramatic. We have increased immunity levels and decreased disease morbidity. For example —

*Last fall and winter every state surrounding Iowa had measles outbreaks. Minnesota experienced deaths due to measles. Even with diligent searching and field visits to each reported case of measles or rash-like illness, Iowa was unable to confirm one case of rubeola during the last 12 months.*

The success of the law and the resultant decrease in morbidity and mortality is due to the continued effort of the state's physicians, nurses (especially school and public health nurses), parents and school officials.

However, there is a potential for problems in the future. Of concern is the possibility of rebuilding the pool of measles/rubella susceptibles. As many as 30% of the entering kindergarten children are still receiving their MMR (measles, mumps and rubella) vaccine under 15 months of age. Many of them are receiving their shots at less than 12 months of age. The school survey conducted by the state this year will seek to document the percentage of chil-

dren receiving measles inoculations at less than 15 months of age.

In order to keep the pool of susceptibles as low as possible, we strongly urge that the recommendations of the Iowa Chapter of the American Academy of Pediatrics, the American Adademy of Pediatrics, Immunization Practices Advisory Committee to the United States Public Health Services and the manufacturers' package inserts be followed. That is, measles vaccine should be deferred until the child reaches 15 months of age.

Iowa and the United States Public Health Services are embarked on a 3-year effort to eliminate measles from the United States, requiring the efforts of the entire medical community. We request that any physicians seeing suspected measles (rubeola) take acute and convalescent bloods. Additionally, we request

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***Iowa's immunization law is producing dramatic results. Cooperation of the state's physicians, school and public health nurses, parents and school officials cited.***

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that any person knowing of or suspecting a case of rubeola report it immediately so the following containment steps may be taken by our field staff:

- a) Confirmation of case by telephone follow-up to physician.
- b) Investigation by our field staff of the source of the case.
- c) Identification of persons exposed.
- d) Referral of susceptible adults and children for proper immunizations.
- e) Field follow-up to assure no additional cases occur — or if they do, to repeat the process in b through e.

Physicians will be notified of the actions taken to contain the case, as well as results of any blood tests taken by our staff.

As stated earlier in this statement, no case of rubeola has been confirmed by blood tests in over 13 months. Over 250 reports of "measles" or rash-like illness of unknown etiology have been received from all sources, investigated and disproved either by blood test or clinical symptoms.

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This information on public health matters is furnished and sponsored by the Iowa State Department of Health.



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#1 prescribed hemorrhoidal product

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modern anorectal comfort

## ANUSOL-HC<sup>®</sup> SUPPOSITORIES

Hemorrhoidal Suppositories

## ANUSOL-HC<sup>®</sup> CREAM

Rectal Cream with Hydrocortisone Acetate

**Caution:** Federal law prohibits dispensing without prescription.

**Description:** Each Anusol-HC Suppository contains hydrocortisone acetate, 10.0 mg; bismuth subgallate, 2.25%; bismuth resorcin compound, 1.75%; benzyl benzoate, 1.2%; Peruvian balsam, 1.8%; zinc oxide, 11.0%; also contains the following inactive ingredients: dibasic calcium phosphate, and certified coloring in a hydrogenated vegetable oil base.

Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg; bismuth subgallate, 22.5 mg; bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

**Indications:** Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, anal fissures, incomplete fistulas and relief of local pain and discomfort following anorectal surgery. Anusol-HC Cream is also indicated for pruritus ani.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol<sup>®</sup> Suppositories or Ointment.

**Contraindications:** Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations.

**Warnings:** The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

**Precautions:** Symptomatic relief should not delay definitive diagnoses or treatment.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued and appropriate therapy instituted.

In the presence of an infection the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled.

Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Anusol-HC is not for ophthalmic use.

**Dosage and Administration:** Anusol-HC Suppositories — Adults. Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at

bedtime for 3 to 6 days or until inflammation subsides. Then maintain patient comfort with regular Anusol Suppositories.

**Anusol-HC Cream — Adults:** After gentle bathing and drying of the anal area, remove tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain patient comfort with regular Anusol Ointment.

**NOTE:** If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

**How Supplied:** Anusol-HC Suppositories — boxes of 12 (N 0047-0089-12) and boxes of 24 (N 0047-0089-24) in silver foil strips with Anusol-HC W/C printed in black.

Anusol-HC Cream — one-ounce tube (N 0047-0090-01) with plastic applicator.

Store between 59°-86° F (15°-30° C).

Full information is available on request.

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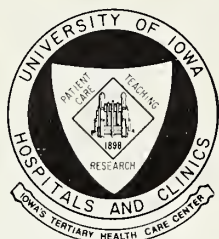
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# DRUG THERAPY REVIEW

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## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

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REYNOLD SPECTOR, M.D., Editor

### FUROSEMIDE: NEW INFORMATION ABOUT AN OLD DRUG

When the first reports on furosemide (Lasix®) appeared in the literature during the sixties, they attracted little interest. The structure of this agent is not too different from that of the thiazides and since there were more than a dozen such agents available, there was no reason to get excited over another one. However, as additional reports appeared, it became apparent that furosemide had actions that differed significantly from those of the thiazides. The use of furosemide has steadily increased since its introduction so that it now has about 40% of the diuretic market. During the time it has been available, numerous studies have added significantly to the understanding of renal function as well as the actions of furosemide. Since many of these studies have altered previous concepts on the actions of furosemide, a brief review of current information on this agent would appear to be in order at this time.

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This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

#### PHARMACOKINETICS<sup>1</sup>

Absorption of furosemide following oral administration in a fasting state is reported to be 60-69%. Plasma levels can be detected by 10 minutes and peak levels are attained by 60-90 minutes. While the fraction absorbed does not appear to be altered if taken with meals, absorption is delayed and occurs over a longer period of time. Absorption does not appear to be affected in patients with cardiac or liver failure, but it is reduced to 43-46% in patients with end-stage renal disease.

At therapeutic levels, furosemide is 95-99% bound to plasma albumin and its apparent volume of distribution is 0.07 to 0.18 L/kg. Its volume of distribution may increase, however, if drugs (e.g., aspirin, phenylbutazone, sulfisoxazole) or retained metabolites as in uremia which compete with its protein-binding sites are present, or if plasma proteins are decreased as in certain liver disorders, nephrotic syndrome or during excessive hydration.

Plasma disappearance curves for furosemide suggest a two-compartment model. The early distribution phase ( $\alpha$ ) is complete by 30-45 minutes, while the terminal phase ( $\beta$ ) is more variable with half-lives of 1-2 hours reported in different studies. In patients with renal disease, both the  $\alpha$  and  $\beta$  phases are markedly increased since the disappearance of furosemide from plasma is due primarily to renal excretion. However, hepatic excretion and metabolism are also involved. Furosemide is excreted primarily as the free compound during the first few hours after administration, but after that time, metabolites (glucuronide and 4-chloro-5-sulphamoylanthranilic acid) are also found.

In the kidneys, furosemide is actively secreted by the proximal tubular system for organic anions (the p-aminohippurate system). The high degree of protein binding of this agent markedly limits the amount of drug filtered by the glomerular membrane and also limits to some extent the access of furosemide to the active transport system. A portion of the drug is excreted by the liver where it is also actively secreted by an organic anion transport system. In patients with renal disease, the fraction of drug excreted into the bile is markedly enhanced.

#### MECHANISM OF ACTION

The primary renal site of action of fu-



roseamide is on the thick ascending limb of the loop of Henle. Furosemide acts on the ascending limb of the loop to inhibit the active reabsorption of chloride and consequently the passive reabsorption of sodium.<sup>2</sup> In maximal doses it can result in the inhibition of as much as 25% of filtered salt reabsorption. Inhibition of salt reabsorption in the loop by furosemide inhibits the ability of the kidneys to form a concentrated urine since the blockade of salt reabsorption results in the loss of the high medullary osmolality. A partial inhibition of the ability of the kidneys to excrete a dilute urine also occurs since the inhibition of salt reabsorption in the loop results in the delivery of an isosmotic fluid rather than a dilute fluid out of this segment.

Several studies have shown that the effect of the drug on active chloride reabsorption occurs as a result of an action on the luminal membrane of the tubules. Thus, the rate of urinary excretion of furosemide rather than the plasma level shows the best correlation with the saluretic activity of this drug. This is particularly evident when large doses of furosemide are used in the treatment of edema of renal disease.

As opposed to older agents such as mercurials and carbonic anhydrase inhibitors whose natriuretic activity is affected by acid base balance, furosemide is an effective saluretic in alkalotic or acidotic conditions.<sup>3</sup>

Potassium excretion is increased by furosemide. This occurs partially as a result of an inhibition of the reabsorption of this cation in the ascending limb of the loop of Henle, but primarily because of an enhanced exchange of sodium for potassium ions in more distal segments of the nephron. Exchange is stimulated by the increased delivery of sodium to this part of the nephron. Furosemide is also an inhibitor of carbonic anhydrase and this results in an increase in bicarbonate excretion and urinary pH.

Furosemide is capable of increasing renal blood flow, particularly if renal vascular resistance is elevated,<sup>4</sup> and the increase in flow occurs primarily in inner cortical portions of the kidney. Since noncorticoid anti-inflammatory agents block this response, the mechanism of action presumably involves a stimulation of the synthesis and release of a prostaglandin. The ability of furosemide to increase renal blood flow is believed to be partly

responsible for the greater utility of this agent in patients with renal disease.

#### USES

Furosemide is employed in the treatment of edematous as well as nonedematous conditions.

**Edematous** — Edematous conditions associated with congestive heart failure, cirrhosis of the liver, and renal disease respond well to furosemide.

The administration of furosemide in conjunction with a cardiac glycoside in the treatment of congestive heart failure is a well known and accepted use of this agent. Recently, however, several studies have questioned the need of a cardiac glycoside in the long-term management of the majority of such cases.<sup>5</sup> Indeed, it has even been suggested that furosemide alone may be adequate therapy in both acute and chronic management of many cases of congestive heart failure.<sup>6</sup>

In the treatment of edema resulting from renal disease, furosemide is far superior to the thiazides. The greater utility of this agent resides in part to its ability to increase renal blood flow but also in its ability to inhibit a major fraction of the tubular reabsorption of sodium and chloride ions. In individuals who do not respond to usual doses of furosemide, the dose may be increased markedly, even to several grams per day. Such regimens are possible because most of the toxic actions of the drug are caused by excessive renal actions of the drug; thus the lack of a diuresis at usual dosages permits the dosage of this agent to be increased as necessary to induce a diuresis. In those patients who do not respond even to large doses of furosemide, recent reports indicate that the addition of metolazone (Zaroxolyn®) may result in the desired renal effect.<sup>7</sup>

While high doses of furosemide have been used to modify the course of acute oliguric renal failure, the value of this agent in these cases is not clear.<sup>8</sup> The oliguric period, the number of dialyses required as well as the mean period of renal insufficiency have been reported to be decreased or not changed by furosemide. However, a recent laboratory study suggests that the addition of dopamine to furosemide therapy may be of value.<sup>9</sup>

The intravenous use of furosemide in pulmonary edema has been found to be a lifesav-

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## DRUG THERAPY REVIEW

(Continued from page 435)

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ing treatment. The benefits of such therapy appear to result from more than the diuretic action of the drug, since improvement can be seen before significant diuresis has occurred and beneficial effects have also been observed in anuric patients. Laboratory studies suggest that capacitance vessels are dilated by this agent and that this results in a shift of fluid within the vascular tree.

**Nonedematous** — Furosemide, like the thiazides, is also used in the treatment of hypertension. In hypertension associated with azotemia, it is the diuretic of choice.<sup>10</sup>

Another use of furosemide is in the treatment of severe hypercalcemia. Renal excretion of calcium is increased by furosemide, presumably by blocking the reabsorption of this cation in the ascending limb of the loop of Henle. Such treatment also includes hydration with physiologic saline and potassium supplementation.

In nephrogenic diabetes insipidus, treatment with saluretic agents such as furosemide is capable of bringing about a 50% reduction in urinary volume.<sup>11</sup> In such individuals, extracellular volume is normal or only slightly reduced. The use of a saluretic increases sodium excretion and consequently reduces extracellular volume to levels below normal. This deficit causes the proximal segments of the tubule to reabsorb a greater fraction of filtered sodium and water, thus delivering less water to the distal part of the nephron. Therefore, as less water is delivered to the distal segments, less water is available for loss.

Furosemide has also been found to be useful

in the treatment of a number of other conditions including hyperpotassemia, respiratory acidosis, and drug intoxications (e.g., bromide).

### ADVERSE EFFECTS

Adverse reactions are reported in 10% of patients receiving furosemide, with half of these being quite serious.<sup>10</sup> Excessive renal actions are responsible for many of the side effects of furosemide. Volume depletion as a result of too great a saluresis may lead to hypotension. With severe losses, circulatory collapse and death can occur.

In treating the edema and ascites of cirrhosis of the liver, excessive losses of electrolytes by furosemide may precipitate hepatic coma. Thus, careful monitoring of plasma electrolytes, especially potassium, is necessary.

Pancreatitis, a diabetes mellitus-like syndrome and nonocclusive intestinal infarction are other adverse effects whose cause has also been hypothesized to be related to excessive volume depletion.

Excessive potassium losses may also be induced by furosemide. This is of particular concern when this agent is being used concurrently with a cardiac glycoside, since the toxicity of the glycosides is enhanced in the presence of hypokalemia.

Uric acid excretion is reduced by furosemide and this may precipitate an acute attack of gout in susceptible individuals. This can be controlled, however, by the administration of probenecid or allopurinol. If probenecid is used, the character of the saluretic action of furosemide will be altered since probenecid antagonizes the renal tubular secretion of furosemide. This results in a saluresis that is

(Continued on page 438)

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# IT'S HIGHLY RECOMMENDED... AND FOR GOOD REASONS



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**WARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

**PRECAUTIONS:** As with other antibacterial preparations,

prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

**ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.



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## DRUG THERAPY REVIEW

(Continued from page 436)

less intense but more prolonged. Total saluresis, however, is the same.

Ototoxicity, including both transient and permanent hearing loss, is possible with furosemide. This toxicity, however, is rare and is apt to be seen only when high doses of the drug are used in the presence of azotemia or in the presence of another ototoxic drug.

Hypersensitivity reactions have been reported which range from skin rashes to blood dyscrasias. Fortunately, the severe allergic responses are very rare.

In summary, furosemide has proven to be a far more useful agent than initially anticipated. Its great utility and relative safety mark it as one of the most useful drugs available today. — *Harold Williamson, Ph.D., Professor, Department of Pharmacology.*

### PLEASE NOTE

The Drug Therapy Review article in the September JOURNAL was entitled, "Minoxidil in Refractory Hypertension." The author of the article was L. H. Norby, M.D., of the U. of I. College of Medicine. Dr. Norby's name was omitted last month.

## August 1980 Morbidity Report

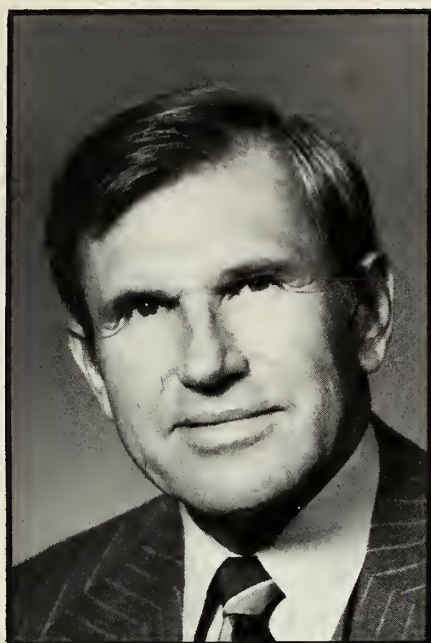
Disease	August 1980 Total	1980 to Date	1979 to Date	Most August Cases Reported From These Counties
Amebiasis	1	8	69	Boone
Brucellosis	0	5	4	
Chickenpox	9	7436	7085	Block Hawk, Dubuque, Johnson
Cytomegalovirus	2	17	8	Cerro Gordo, Polk
Eaton's Agent infection	2	11	35	Keokuk, Polk
Encephalitis, viral	2	10	46	Polk, Winneshiek
Erythema infectiosum	0	398	1071	
Gastroenteritis (GIV)	125	13487	13151	Block Hawk, Johnson, Linn, Scott
Giardiasis	5	19	27	Polk, Boone, Cerro Gordo
Hepatitis, A	10	103	139	Polk, Woodbury
Hepatitis, B	12	60	68	Warren, Polk
type unspecified	8	53	38	Dubuque, Block Hawk, Boone
Herpes simplex	11	70	49	Johnson, Scott, Block Hawk
Herpes Zoster	0	1	1	
Histoplasmosis	0	14	2	
Infectious mononucleosis	11	217	402	Polo Alto, Woodbury, Carroll
Influenza, lab confirmed	0	109	34	
Influenza-like illness (URI)	519	49352	40770	Polo Alto, Johnson, Block Hawk

Disease	August 1980 Total	1980 to Date	1979 to Date	Most August Cases Reported From These Counties
Meningitis				
aseptic	15	30	32	Linn, Scott, Webster
bacterial	14	93	83	Polk, Scott, Lee, Linn
meningococcal	1	9	9	Cerro Gordo
Mumps	2	39	228	Buchanan, Mohosko
Pertussis	2	2	2	Buchanan, Warren
Robies in animals	58	324	127	Pottawottomie, Poweshiek, Hamilton, Cerro Gordo
Rheumatic fever	0	0	10	
Rubella (German measles)	1	8	53	Woodbury
Rubeola (measles)	0	0	16	
Salmonella	26	98	109	Linn, Polk, Des Moines, Scott
Shigellosis	7	39	49	
Tuberculosis				
total ill	6	61	52	Henry, Lee
bact. pos.	5	46	45	Henry, Lee
Venereal diseases:				
Gonorrhea	578	3333	3963	Polk, Block Hawk, Linn, Scott
Syphilis	5	14	27	Linn

### Laboratory Virus Diagnosis Without Specified Clinical Syndrome:

Adenovirus — 1 Des Moines, 1 Dubuque, 1 Polk, 1 Scott; Amebiasis — 1 Boone; Giardiasis — 1 Boone, 1 Cerro Gordo, 2 Polk, 1 Wright; Guillain Barre — 1 Hordine; Herpes Simplex — 1 Block Hawk, 5 Johnson, 1 Keokuk, 1 Linn, 3 Scott; Scarlet Fever — 1 Decatur; Echovirus — 1 Scott, 1 Woodbury; Coxsackie Virus — 2 Johnson; Malaria — 1 Johnson, 1 Story; Campylobacter — 3 Dubuque, 1 Johnson, 2 Marshall, 1 Plymouth, 2 Polk, 1 Woodbury; Toxic Shock Syndrome — 1 Polk.





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## PRESIDENT'S PRIVILEGE

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**T**HIS is the month we celebrate Thanksgiving. At this time we should take stock of our situation and count our blessings. I believe that both our patients and our profession have a good many reasons to be thankful.

First, our patients are the recipients of a health care field which is constantly striving to improve the quality of life and to prolong it. The efforts of this segment of our society have produced a life expectancy increase from 47.3 years in 1900 to 73.2 years in 1977. In 1950 the mortality rate for infants under one year was 29.2 deaths per thousand. The infant mortality rate per 1,000 live births in 1978 was 11.8 in Iowa. Many new medications and procedures have resulted in improved quality of life.

The profession also has a good many reasons to be thankful. We are members of the most highly respected profession in the United

States. Generally, all physicians are busy and are practicing medicine in a manner which they have chosen, and have comfortable remuneration.

We all have good reasons to be thankful!

*William R. Bliss, M.D.*

**William R. Bliss, M.D.**

P.S. "What's Your State of Well Being?" is the title of a special insert in this issue. Take a look at it. Then put the JOURNAL in your reception area for others. Additional copies of the insert may be ordered; there's an order form on the page following the supplement.

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# VOX DOCS

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This month's VOX DOCS question is below. It asks your opinion about the "annual physical exam." Please answer it and send to IMS JOURNAL, 1001 Grand Avenue, West Des Moines, Iowa 50265. Last month's question and answer results are shown to the right along with several of the comments we received.

"In private practice, the first requirement is availability. Although my work-load is less, the system dictates the many hours because of the increasing number of competitive doctors." — *Lawrence O. Ely, M.D., Des Moines*

"52 seems reasonable for physicians in their prime and in good health. At that time one expects to work fairly hard. At other times the load should be lighter." — *Scott R. Helmers, M.D., Sibley*

"Medical services have to be available 24 hours a day. With the limited availability of qualified practitioners it is impossible to limit number of hours worked to the 'desirable ideal.' " — *T. M. Gary, M.D., Cherokee*

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51.5 is the mean number of hours practiced per week by physicians in region which includes Iowa. Are you working more or less hours than 3/5 years ago. Do you think 52 hours per week is too much, too little, about right?

## PERSONAL SCHEDULE

More Hours Than 3/5 Years Ago	55%
Less Hours Than 3/5 Years Ago	12%
About the Same	33%

## IS 52 HOURS . . .

Too Much	27%
Too Little	13%
About Right	60%

---

"Individual variations in demand for services, pace and style of practice and some desire to work more than others makes an optimum figure meaningless in my opinion." — *M. E. Kraushaar, M.D., Ft. Dodge*

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## NOVEMBER QUESTION FOR IOWA PHYSICIANS

The value of the "annual physical exam" is debated frequently in and out of medical circles. What is your position on the worth of the "annual physical exam" for the adult patient with no symptomatology?

- ☐ Little Or No Value At Any Time      ☐ Important On Regular Basis  
☐ Possible Benefit Beyond Certain Increased Age

Comment, please \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

(Please Complete & Send to IMS JOURNAL, 1001 Grand Avenue, West Des Moines, Iowa 50265)

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# NEWS/PRODUCTS, PROGRAMS, ETC.

Information on various products, programs, etc., is received regularly by the IMS JOURNAL. Here are short items sifted from the mail by the Scientific Editor. A reference to a specific product is not intended to suggest any particular endorsement. Additional information on any entry may be obtained by contacting the IMS JOURNAL.

**FOR ACNE VULGARIS** — Cleocin T Topical Solution® has been approved by the FDA for the treatment of acne vulgaris. The product will be available from Upjohn in applicator-containers later this year.

**RECORDED TEXTS** — Over 48,000 recorded textbooks are available to the blind and the physically or perceptually handicapped students through a non-profit organization known as Recording for the Blind, Inc. In 1978-1979, over 13,000 handicapped students were served.

## SOME NEW BOOKS:

Arnold, Peter, 1980, *Emergency Handbook: A First Aid Manual for Home and Travel*. Doubleday and Co., New York, N. Y. Price \$11.95.

Wilson, Christine Coleman, and Hovey, Wendy Roe, 1980, *Cesarean Childbirth: A Handbook for Parents*. Doubleday & Company, Inc., New York, N. Y. Price \$6.95.

Ruben, Harvey L., 1980, *Competing — Understanding and Winning the Strategic Games We All Play*, Lippincott & Crowell, New York, N. Y. Price \$9.95.

Junqueira, L. C., and Carneiro, J., 1980, *Basic Histology*, 3rd edition, Lange Medical Publications, Los Altos, California. Price \$15.50.

Rinzler, Carol Ann, 1980, *The Consumer's Brand Name Guide to Household Products*, Harper & Row, New York, N. Y. Price \$6.95.

Frankel, Lawrence J., and Richard, Betty Byrd, 1980, *Be Alive as Long as You Live*, Harper & Row, New York, N. Y. Price \$12.95.

**SKIN CLEANSER** — Riker Laboratories, Inc., has recently introduced a new liquid skin cleanser. The low pH product, pHresh 3.5 Finish Cleansing Liquide, is non-alkaline, non-irritating and non-drying. Indications for use include degreasing oily skin, cleansing of skin fold or heat rash areas, bathing of infants, for intimate hygiene and as a soothing bath additive.

**JACK SPRATT** — Fat in the diet leads to excess calorie intake at a rate more than twice that of protein or carbohydrate. Did you know one need not reduce meat consumption to reduce fat intake? An ounce of fat (2 tablespoons) contains 250 calories, whereas an ounce of lean meat has only 50. Oscar Mayer has labeled nearly a dozen cold cuts 90% fat-free to help you pick the lean ones. For more information, write "Dietary Fitness," Oscar Mayer & Co., P.O. Box 7188-HF, Madison, WI 53707.

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## QUESTIONS - ANSWERS

**R. J. COBLE, M.D.**  
IOWA CITY, IOWA

### THE 'ANNUAL PHYSICAL'

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*Dr. Coble is associate director of the Family Practice Residency Program at the University of Iowa. He offers his views on the debatable subject of the annual physical examination.*

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**The debate over the "annual physical" has gone on for a number of years. As one who works in the primary care phase of medicine, what value do you assign to the "annual physical?"**

The annual physical examination *per se* has not proven to be a cost effective tool in early disease detection. Physicians and patients alike are prone to ignore or discount the isolated, asymptomatic abnormality turned up in a routine physical exam unless it poses some frightening threat to the patient's health. Perhaps its greatest value is as a legitimate ticket to see the busy physician and discuss concerns that the patient regards as too minor to warrant a special trip to the doctor.

**Probably there is an age at which an "annual physical" has virtue. Do you think so?**

No, I doubt that any specific age or chronological milestone can be applied to everyone to signal the need for starting a ritual "annual physical." There is much variation in individuals' state of health and physiological age at any given chronological age.

**If the "annual physical" were abandoned what, if anything, would you substitute, i.e., screening, counseling, self-care education, nothing?**

Mass periodic health screening has failed to show a significant decrease in morbidity and mortality commensurate with the cost. Programs of scheduled visits that are individualized to take into account the patient's age, health hazards and risks, and family history can utilize physical exam and laboratory tests and other modalities more effectively. Physicians also have a responsibility to advise and educate their patients in self-care, in health maintenance and risk education, and in the importance of prompt reporting and investigation of such symptoms as painless bleeding, weight loss, depression, masses or lumps, chronic hoarseness or cough, etc., that are nonspecific but may signal the onset of a serious problem.

**Is there any prevailing or emerging pattern of thought on the subject among those directing family practice residents?**

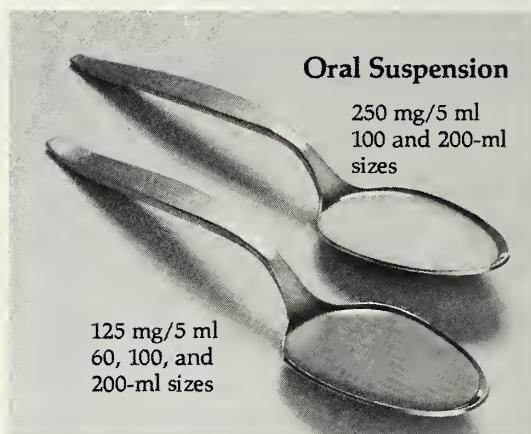
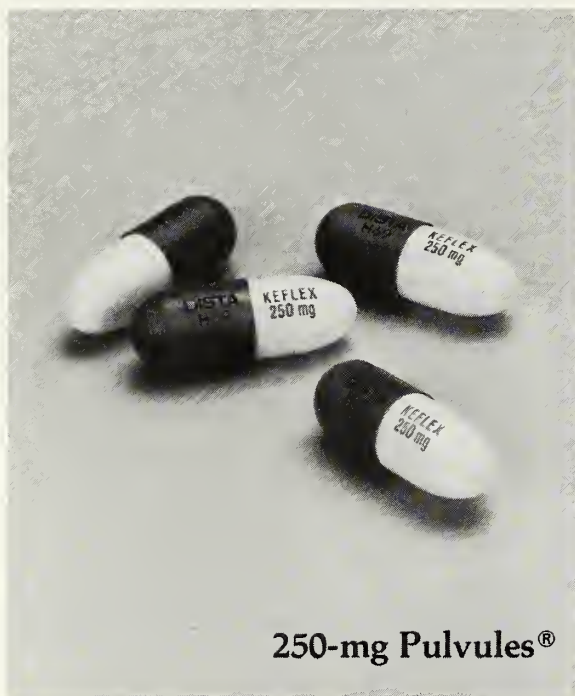
If there is an emerging pattern concerning health maintenance or periodic adult health screening in family practice residencies, it follows to some degree either the audit criteria set out by the American Board of Family Practice for the 20 diagnoses that may be audited for recertification or some variant of the screening schedule proposed by Frame and Carlson in 1975.

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***This month's Vox Docs question (found on page 457) asks for Iowa physician opinion on the "annual physical examination." You are invited to submit your opinion on this interesting topic.***

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# Angiosarcoma of the Breast

GEORGE T. JOYCE, M.D., and  
PHILIP R. CAROPRESO, M.D., F.A.C.S.  
Mason City, Iowa

ANGIOSARCOMA OF THE BREAST is a rare tumor. Fewer than 50 cases appeared in the literature by 1978. It is associated with the poorest prognosis of all breast malignancies. Only 5 patients have survived longer than 5 years. This case is of particular interest because of the discovery of the smallest angiosarcoma of the breast thus far reported.

## CASE SUMMARY

The patient is a 21-year-old white female, who is a registered nurse. Six weeks prior to initial examination, she discovered a mass in the outer upper quadrant of the left breast. The mass was in the immediate circumareolar region between the inner and outer upper quadrant of the left breast. It was not painful. There was no injury to the breast, and the patient was taking no medications. The patient discovered the mass on routine self breast examination.

Dr. Caropreso is associated with Independent Medical Surgical Group, and Dr. Joyce is a pathologist at St. Joseph Mercy Hospital, both in Mason City.

---

*This is the preliminary report of a minute tumor discovered in the upper quadrant of the breast. The tumor proved to be angiosarcoma with appropriate surgical intervention undertaken. Time will be needed to relate the element of tumor size to long-term survival.*

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She denied any changes in the skin or in the nipple. The mass had not varied with menstrual cycles, but the patient believed it had recently enlarged. There was a negative family history for breast carcinoma.

Physical examination revealed a 2 cm, freely moveable, well circumscribed, smooth, spherical mass in the immediate circumareolar region between the inner and outer upper quadrants of the left breast. The mass was nontender. There were no skin changes overlying the mass. There was no supraclavicular or axillary adenopathy. The mass was solid rather than cystic to palpation. Fibroadenoma of the left breast was the initial impression. With this diagnosis, an excisional biopsy was performed. The frozen section report provided a benign diagnosis — probable fibrocystic disease and lipoma. However, the final pathology report was an angiosarcoma, which measured 0.8 cm. Prior to any definitive surgery, thoracic and abdominal CT scans were done. These ex-

THE SCANLON MEDICAL FOUNDATION/IOWA MEDICAL SOCIETY HAS DESIGNATED THIS ARTICLE  
AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF NOVEMBER 1980.

## ANGIOSARCOMA OF THE BREAST

(Continued from page 463)

aminations showed no metastatic disease. A left total mastectomy was then carried out. A microscopic focus of residual tumor was present beneath the original biopsy site. This tumor was characterized by small, irregular vascular spaces, which were lined with plump endothelial cells, possessing oval and irregularly shaped nuclei. The patient was discharged from the hospital on the fourth postoperative day and is well at the time of this report.

### HISTORY AND DISCUSSION

Angiosarcoma was first described in 1887<sup>1</sup> and has been referred to in the literature as hemangiosarcoma,<sup>2</sup> hemangioendothelioma,<sup>3</sup> and benign metastasizing hemangioma.<sup>4</sup> Over the years, as more cases have been reported, the following conclusions have been made. Angiosarcomas of the breast occur more commonly in women in their second and third dec-

ades. Hormonal stimulation as a definite etiologic factor cannot be postulated. One review noted 4 patients pregnant at the time of diagnosis, while 8 patients, who developed the malignancy, were post-menopausal.<sup>6</sup> Bilateral disease has been rarely reported.<sup>7</sup> It is more likely that the opposite breast will be involved by metastatic disease rather than by a second, primary malignancy.<sup>8</sup> Metastatic spread is by hematogenous dissemination, with regional lymph node involvement seldom occurring.<sup>6</sup>

### CASE FEATURES

Certain features of this case deserve emphasis. The initial breast lesion was not suspicious on physical examination. There was no evidence of vascular lesion. The patient was asymptomatic. Angiosarcomas can be painful. On palpation, they are frequently spongy and tender. If superficial, the skin will be discolored with a blue or purple hue. Often the mass enlarges rapidly.<sup>5</sup> It is the contention of one author that a benign vascular lesion, such as an angioma of the breast, has never constituted a palpable or symptomatic tumor.<sup>9</sup> Therefore, any symptomatic, palpable, vascular lesion should be biopsied. A nonmalignant frozen section diagnosis is not a guarantee of benignity. Permanent pathology section in this case provided the malignant diagnosis. This occurrence is reported.<sup>5, 6</sup> Most angiosarcomas are large, advanced lesions prior to biopsy and treatment. The smallest tumors are in the 2 cm to 3 cm size range.<sup>5</sup> The angiosarcoma reported in this paper, measuring 0.8 cm in its maximum dimension, is the smallest documented tumor in the literature. There may be a direct association between size of tumor and length of survival, with the smallest tumors having the best prognosis. Long term followup will determine if this case verifies that association.

### TREATMENT

Wide surgical excisions have been the standard for treatment of angiosarcomas of the breast. Various operations have been used, ranging from extended radical mastectomies to total mastectomies without axillary dissections.<sup>5, 6</sup> Since angiosarcomas rarely involve axillary lymph nodes, axillary dissections are unnecessary unless nodes are clinically palpable. Except for large extensive tumors,

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which may involve the muscle and fascia, a total mastectomy fulfills the definition of wide surgical excision. A local excision is probably inadequate treatment. As in this case, a microscopic focus of residual tumor may remain in the breast. Although angiosarcoma may appear encapsulated, no true capsule is present.

Other treatment modalities have been reported.<sup>5, 10</sup> Nevertheless, at this time, radiation or chemotherapy are not beneficial in the treatment of angiosarcoma of the breast. In a recent report, both estrogen and progesterone receptor studies were negative in angiosarcoma of the breast.<sup>11</sup> There is no data presently available to form any conclusions about hormonal receptors in angiosarcoma.

#### SUMMARY

A case of angiosarcoma of the breast has been presented. This case is noteworthy because of the extremely small tumor found in a young woman. Although initially reported as benign, the tumor proved to be an angiosarcoma

on permanent pathology section. Appropriate surgical treatment was carried out by performing a total mastectomy. This is a preliminary report, and the effect of surgery and the influence of the tumor size can only be determined by long term followup.

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# What Iowa Family Physicians, Residents and Medical Students Think About Physician's Assistants

DENIS OLIVER, Ph.D., and  
MICHAEL PRESTON, M.A.  
Iowa City, Iowa

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*Generally favorable attitudes exist toward PAs among physicians at various levels of training. This finding has emerged from a study by the authors. The respondents typically placed the PA in relatively small, rural primary care practices.*

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THE ACCEPTANCE and use of physician's assistants (PAs) depends heavily on a clear perception of their role and a positive attitude toward them by physicians. If physicians support membership of the PA on the health care team then a significant and cost effective contribution can be made to medical care.<sup>1-3</sup>

A major health manpower innovation of the late 1960's and 70's was the development of the physician's assistant and the nurse practitioner. The duties of the PA are only now becoming more clearly defined. In large part the work of the PA is determined by the supervising physician and is based on his/her judgment as to what aspects of patient care are appropriate to delegate. The attitudes and perceptions of physicians toward the PA are therefore of utmost importance to the future of these health care providers.

In recent years there have been 2 statewide surveys and several national reports on physician and public attitudes toward PAs. The University of Iowa surveyed the attitudes of Iowa physicians in 1970<sup>4</sup> and 1974.<sup>5</sup>

The 1970 survey results showed most Iowa physicians were (1) generally informed about the training and role of the physician's assistant, and (2) under proper supervision they would assign many responsibilities for patient care to a PA. There was a relatively strong interest in employing a physician's assistant, particularly among younger physicians associated with larger group practices.

In 1974, a second and similar survey was conducted of Iowa physicians. As in the 1970 survey, nearly all respondents were familiar with the PA. The 1974 survey continued to indicate the physician who might hire a PA was relatively younger. However, a difference appeared in that these physicians were generally in solo or small group practices in smaller Iowa communities.

A number of national surveys reveal a generally positive attitude toward PAs. Fottler<sup>6</sup> reported 59% of the physicians surveyed in western New York said they were willing to hire a physician extender.\* The same survey showed 87% of the physicians were willing to give PAs significant diagnostic responsibilities. The

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\* Physician extender refers to Medex, physician's assistant and nurse practitioner.



greatest degree of acceptance was among young physicians, those working in group practice and those employed in primary care specialties.

Coe and Fichtenbaum<sup>7</sup> evaluated the contrasting use of PAs in a small community hospital and in a group practice situation. It was shown that effective use of an assistant depends on acceptance of his/her role and the degree of supervisory responsibility assumed by the physician employer. It was also shown that resistance to the concept declined over time as experience with the PA increased. Other surveys indicate patients and the general public appear favorably disposed toward PAs once they are assured the PA is competent<sup>8</sup> and works under the clear supervision of a physician.<sup>9</sup>

#### NEW SURVEY

This report examines the attitudes of (a) physicians who employ PAs, (b) family practice residents, and (c) sophomore medical students. Also reported are the perceptions of practicing PAs about their role in medical care. Undoubtedly, physicians who employ PAs are most familiar with them because of direct and extensive association in the clinical setting. The family practice resident respondents had less experience with PAs, although some were in community-based residency training programs which employ a PA and which, in addition, provide clinical training experience for senior PA students from the University of Iowa. Sophomore medical students have variable academic and personal association with PAs. There is interaction in the basic science curriculum (pharmacology) and in the course, Introduction to Clinical Medicine.

At least a partial understanding of the attitude held by physicians at various levels of practice and training will emerge from an examination of these three groups. The evaluation of these groups may have additional worth in view of reports of a projected excess of physicians in the next decade. The attitudes of the latter two groups are particularly important in that they are the potential PA employers.

#### SURVEY METHODS

Thirty Iowa physicians who employ a PA responded to the survey. These physicians reside in relatively small communities (average size = 5,000-10,000) and are engaged in a

general family practice. They had employed a PA a minimum of 6 months.

Forty-three practicing PAs participated in the study. They were similarly in small Iowa communities and employed by family physicians. Twenty-four of the PA respondents were employed by physicians also participating in the survey.

The 172 medical students were surveyed at the end of their sophomore year. This occurred 3 weeks prior to the beginning of their clinical training and after completion of the course, Introduction to Clinical Medicine.

The 167 family practice residents were at various levels of training: 54 — 1st year; 41 — 2nd year; 34 — 3rd year; 18 — recent graduates; and 20 — staff physicians. These residents and staff physicians were located across the state and affiliated with the community-based family practice residency network.

A comprehensive questionnaire was used. The first part concerned the need for PAs, the quality of PA training, the perception of the usefulness of services rendered by PAs, situations that would lead to hiring a PA, and the positive/negative aspects of hiring a PA. This part of the survey was completed by all 4 groups. A second part consisted of questions about the appropriateness of certain practice settings for PAs and the amount of supervision they should have. This part was completed only by physicians who employ PAs and the family practice residents.

All survey responses were compared across the groups. Yes and no answers were required in most cases. The percentage of affirmative responses is displayed in the tables. The proportions of affirmative responses were analyzed by the chi square test of independence to determine if significant differences existed between groups.

#### SURVEY FINDINGS

Findings as to the need for PAs, the quality of PA training and the perception of the services rendered by PAs are shown in Table I. All 4 groups agreed there is a need for PAs. Rural areas are cited as points of greatest need. The quality of PA training is regarded as either good or excellent by a majority of respondents in each group. A large majority of the physicians who employ PAs viewed their training as excellent (mean value of 1.26). The responses from graduate PAs ( $\bar{x}$  = 1.55), family practice

*(Please turn to page 468)*

TABLE I  
ATTITUDES CONCERNING THE PHYSICIAN'S ASSISTANT

Attitude Variables	Percentage of Affirmative Responses			
	Physicians Employing a PA (N = 30)	Graduate Physician's Assistant (N = 43)	Family Practice Residents (N = 167)	Sophomore Medical Students (N = 172)
A. Is there currently a need for PAs in:				
1. Rural areas	100%	100%	87%	93%
2. Urban areas	86%	93%	73%	81%
3. Suburban areas	79%	78%	53%	65%
B. Which best describes the quality of PA training?				
1. Excellent	76%	41%	10%	21%
2. Good	24%	52%	51%	37%
3. Fair	0	0	16%	5%
4. Poor	0	0	2%	0
5. No opinion	0	7%	21%	37%
Mean Value ( $\bar{x}$ )	1.23	1.55	2.30	1.75
C. Which best describes the services rendered by PAs				
1. Extremely useful	75%	65%	14%	35%
2. Useful	25%	35%	74%	59%
3. Menial	0	0	8%	2%
4. Of no value	0	0	1%	0
5. No perception	0	0	3%	3%
Mean value ( $\bar{x}$ )	1.23	1.35	1.96	1.65

residents ( $\bar{x} = 2.3$ ) and medical students ( $\bar{x} = 1.75$ ) were similar with the notable exception that in the latter 2 groups, a significant percentage (21% and 37%, respectively) had no opinion on the quality of PA training. The perception of services rendered by PAs ranged from useful to extremely useful by all 4 respondent groups. The majority of physicians who employ PAs (75%) and practicing PAs (65%) viewed the PA services as extremely useful ( $\bar{x} = 1.23$  and 1.35, respectively). The residents were slightly less favorable although a majority (75%) considered PA services as useful ( $\bar{x} = 1.96$ ). Interestingly, essentially none of the respondents felt the services of the PA were of no value and only a relatively small number (3%) of the residents and medical students had no perception concerning this item.

Survey findings as to PA effect on health care delivery are shown in Table II. Patient volume is the most significant factor in the consideration of hiring a PA. A perceived improvement in the quality of care delivered was cited by over half the respondents. A relatively insignificant number of residents (3%) and medical students (2%) said they would not employ a PA. Responses as to the effects of hiring a PA showed all 4 groups to be uniformly positive in suggesting PAs could (1) significantly increase the number of patients cared for, (2) allow physicians to provide more comprehensive

care, and (3) allow the physician more time for complicated and demanding tasks. The survey findings showed the likelihood of making more care available outside the office (house calls and nursing home visits) and also adding the potential for more leisure time for the physician.

In terms of the negative aspect(s) of employing a PA, most respondents agreed it might increase supervisory/administrative responsibilities and create the potential for physician depersonalization with patients. The residents were particularly sensitive to the possibility of a higher incidence of malpractice cases brought about by employing a PA. This was a relatively minor concern for physicians who employ a PA. None of the 4 groups considered decreased profits or lower quality of care as a significant negative.

It is interesting that the responses of physicians employing PAs and those of practicing PAs were remarkably similar on most survey items. However, they differed significantly on the prevalence of malpractice, reflecting an expected concern among physician employers.

Findings as to the use of PAs in various health care settings is presented in Table III. Only the physicians who employ PAs and the family practice residents answered these questions. Both groups agreed (at a level of 90% or better) that the solo practitioner's office, the



primary care group practice and the nursing home are appropriate work settings for PAs. The two groups differed on the use of a PA in other settings, e.g., non-primary care group practice, hospital emergency room, hospital inpatient service or home visits. The physicians employing the PAs supported broader PA use than did the residents. Use of the PA in a satellite clinic (rural and urban) ranged from 57% to 81% in affirmative response.

Both groups agreed supervision is best where the physician and PA are in the same office with supervision at the discretion of the physician. Only moderate support was evidenced for over-the-shoulder type of supervision. Physician PA employers and residents differed notably on the use of PAs in a setting separate from the physician. In all 3 instances, residents were less supportive than physician employers, although not surprising-

ly both groups attitudes became less favorable as the amount of physician supervision in the satellite clinic decreased. Interestingly, both groups were more positive to the rural satellite clinic (A.4) in the preceding question than in response to question (B.3) expressing a similar degree of physician supervision in a similar setting.

#### CONCLUSIONS

The attitudes of physicians who employ PAs, family practice residents and medical students are generally favorable toward PAs. As expected, the views of PAs were also favorable and tended to agree with physician employers. No significant negatives appear to exist as to the capabilities, training or use of PAs. In fact, the majority of physicians in training (residents and medical students) would consider employing a PA in the future. A concern was expressed over potential malpractice liability.

TABLE II  
ATTITUDES CONCERNING THE EMPLOYMENT OF A PHYSICIAN'S ASSISTANT

Attitude Variables	Percentage of Affirmative Responses			
	Physicians Employing a PA (N = 30)	Graduate Physician's Assistant (N = 43)	Family Practice Residents (N = 167)	Sophomore Medical Students (N = 172)
A. Which of the following situations would warrant hiring a PA:				
1. The patient load was great enough to support a PA.	70%	70%	54%	77%
2. The patient load was too great for one physician and another physician was not available.	47%	40%	64%	75%
3. To improve the quality of medical care.	57%	65%	47%	62%
4. To alleviate extensive on-call.	50%	35%	29%	54%
5. Under no circumstances would I hire a PA.	0	0	3%	2%
B. Do you think that a PA would:				
1. Increase the number of patients you could care for.	93%	95%	97%	97%
2. Increase your medical liability.	62%	10%	74%	62%
3. Allow you more leisure time.	63%	77%	64%	75%
4. Allow your practice to give more comprehensive care to each patient.	97%	98%	83%	88%
5. Allow you more time for the more complicated or demanding tasks.	100%	91%	94%	95%
6. Jeopardize your physician-patient relationships.	17%	5%	32%	23%
7. Enable your practice to give more care outside of the office or hospital (e.g. house calls, nursing home visits, etc.)	75%	65%	79%	82%
C. Which of the following do you think is a negative aspect of employing a PA:				
1. Decreased profits	17%	7%	4%	6%
2. Increased supervisory and/or administrative chores.	43%	47%	49%	64%
3. Lower quality of patient care.	3%	2%	12%	6%
4. Higher probability of a malpractice case.	23%	9%	43%	22%
5. Depersonalization of the physician's role in patient care.	40%	23%	58%	47%

TABLE III  
ATTITUDES CONCERNING THE APPROPRIATE SETTING AND TYPE  
OF PHYSICIAN SUPERVISION FOR PHYSICIAN'S ASSISTANTS

Attitude Variable	% Affirmative Responses	
	Family Practice Residents (N = 167)	Physicians Employing PAs (N = 30)
A. Which of the following would you consider to be appropriate settings for PAs employed by physicians?		
1. Solo practitioner's office	93	100
2. Primary care group practice	92	100
3. Non-primary care group practice	76	100*
4. Rural satellite clinic (with a direct communication link to a physician and a minimum of two one-half days/week physician coverage)	62	81
5. Urban satellite clinic (with some arrangement for physician supervision as item 4.)	57	68
6. Hospital emergency room/out patient service	72	93*
7. Hospital in-patient service	56	92†
8. Periodic nursing home visits	90	100
9. House calls	69	100†
B. Which of the following would you consider appropriate methods of physician supervision of PA activities?		
1. Over-the-shoulder supervision	59	46
2. Physician and PA in the same office with supervision provided at the discretion of the physician	96	93
3. Physician and PA in different settings with physician consultation visits two-half days per week	29	74‡
4. Physician and PA in different settings with physician consultation visits daily	55	86*
5. Physician and PA in different settings with direct communications link and infrequent physician visits	15	47†
p-value		
* = <.050		
† = <.010		
‡ = <.001		

Incidence of such litigation against a PA or his employer is believed to have been minimal.

The middle road appears to be desired in terms of physician supervision. Over-the-shoulder surveillance is not highly desired, nor is infrequent supervision of a PA in a setting remote from the physician's main office.

The current Iowa rules permit use of PAs in remote offices provided there is a demonstrated need and appropriate method and frequency of physician supervision. A minimum of 2 half-days per week of direct physician supervision is required with adequate provision for immediate communications between physician and PA at all other times. In addition, periodic and timely review of the work of the PA is required.

The satellite clinic is one effective method of providing immediate and continuous health care to a community which otherwise could not support the services of a full-time physician. However, the concept is dependent on the appropriate use of the PA by the supervising

physician and acceptance of the PA by both support staff and the community in general. In a recent survey of 19 practice sites in Iowa, it was shown PAs at satellite sites were receiving as much or even more physician supervision as PAs employed in non-satellite practice sites.<sup>10</sup>

As reported previously in the JOURNAL OF THE IOWA MEDICAL SOCIETY, the majority of Iowa PAs are employed by family physicians in solo or partnership practices in relatively small, rural communities.<sup>11</sup> This continues to be the perceived billet for the PA. The Iowa PA training program has sought to encourage its graduates (there were 20 in 1980) to seek employment in rural and underserved areas. Inquiries regarding the recruitment of a physician's assistant may be directed to the University of Iowa Physician's Assistant Program. For information please call 319/353-5711.

#### REFERENCES

The references noted in this paper are available either from the authors or the JOURNAL OF THE IOWA MEDICAL SOCIETY.



## IMS MEMBER PHYSICIANS

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## MEDICAL MEETINGS

*The following postgraduate courses and conferences will occur at U. of I. College of Medicine in Iowa City.*

- |                |  |
|----------------|--|
| November 14    | Sixth Annual Childhood Cancer Workshop               |
| November 18-19 | Postgraduate Conference on Obstetrics and Gynecology |
| November 20    | Radiation Therapy Seminar                            |
| November 21    | Otolaryngology Clinical Conference                   |

Society Meetings in conjunction with postgraduate courses

- |              |  |
|--------------|--|
| October 31   | Iowa Chapter, American College of Surgeons |
| November 6-8 | Iowa Psychiatric Society                   |

- |                |  |
|----------------|--|
| November 18-19 | Iowa Obstetrical and Gynecological Society |
| December 1-5   | Cardiology Today                           |
| December 3     | Ophthalmology Clinical Conference          |

### ADDITIONAL MIDWEST MEETINGS

- |                |  |
|----------------|--|
| November 12    | Update on Emergency Medicine, Mercy Hospital Medical Center, Des Moines, Iowa  |
| November 13-14 | Perinatal Care, Creighton University School of Medicine, Omaha, Nebraska   |
| November 15-16 | Therapeutics II — 1980, University of Wisconsin Clinical Science Center, Madison, Wisconsin  |
| December 5     | Family Medicine Update, Creighton University School of Medicine, Lincoln Medical Education Foundation, University of Nebraska College of Medicine, Omaha, Nebraska |
| December 10-12 | Neurology for the Non-Neurologist, Sheraton Plaza Hotel, Chicago, Illinois, sponsored by Rush-Presbyterian-St. Luke's Medical Center                               |



## COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### YOUR STATE OF WELL-BEING

**T**HE IDEA of a personal assessment will draw few arguments. It is a challenge we should willingly accept now and then. Various factors influence the future health of an individual, just as various factors influence his economic future. In the economic sense we set up budgets and at year's end we compile a balance sheet.

In this issue of the JOURNAL we present a mechanism for assessing the health of an indi-

vidual. This series of questions comes together as a health education tool to promote thinking about those risks which jeopardize our health. Our manner of living, the way we eat, and our exercise schedule have a plus or minus effect, in addition to smoking and the ingestion of excessive alcohol. They can have an obvious direct and deleterious impact on health.

It is ironic that in our enlightened society with refined treatment methods for disease we have a significant number of people who continually abuse their health and well-being by injudicious uses of alcohol, drugs, tobacco, and improper dietary habits. These abuses, compounded by a sedentary life, represent a stacked deck against future good health. Yet, our educational promotions have little impact. The attitude that this *can't happen to me* or *I can do as I please* or *don't tell me what's good for me* are hollow statements. Our society has become so imbued with the idea of personal "freedom" that the true sense of personal "responsibility" seems to have been lost. The day of reckoning comes too late and then we hear the cry, "Why me?"

We do not anticipate that our presentation of the "State of Well-Being" assessment will save the world. It is not meant to be an absolute indication of risks or probabilities. Yet, it will serve a true purpose if it awakens a few to realize that the present way of life has a direct bearing on the future of that life.—M.E.A.

### THANKSGIVING 1980

**T**HIS NOVEMBER issue of the JOURNAL will be received by our readers shortly after the national elections and shortly before the annual celebration of Thanksgiving. It is appropriate to contemplate the implications of the future. We must depend on those who have been elected to high offices. Our hope is that these elected officials will preserve the high tenets of government established by our forefathers. To them we have given our trust,

and we hope this trust is not misplaced.

On Thanksgiving Day 1980 we give thanks that we still have free elections: that we do have a government that is essentially of, by, and for the people. Our thanks need to be expressed for the abilities we have as physicians to aid those who are in need of health care. As with the politician, we must not misplace this trust, for our calling is a great one. We must possess and willingly distribute love, compassion and altruism.

Best wishes for a pleasant and meaningful Thanksgiving Day from all of us associated with the JOURNAL and the workings of the Iowa Medical Society.—M.E.A.



# THE U.S. GOVERNMENT DROVE 12 ECONOMY CARS INTO A CONCRETE WALL AT 35 MPH TO TEST THEIR SAFETY.

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TOYOTA COROLLA TERCEL (FAILED)  
SUBARU GLF (FAILED)  
HONDA PRELUDE (FAILED)  
VW RABBIT CONVERTIBLE (FAILED)  
CHEVY CHEVETTE (PASSED)  
AUDI 4000 (FAILED)  
DATSUN 200SX (FAILED)  
DATSUN 310 (FAILED)  
FIAT STRADA (PASSED)



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Interpreted as a serious or fatal injury to either test dummy and does not include fuel integrity leakage. (FMVSS 301)

## ONLY ONE IMPORT PASSED THE TEST.\* FIAT STRADA.

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EPA EST  
MPG

**38**  
EST HWY

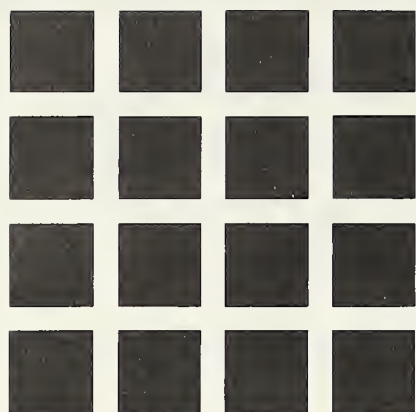
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## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

### LEARNING ABOUT A NEW DRUG

An interesting survey was recently published that described how a large group of internists learned about cimetidine. (Manning & Denson, Ann. Int. Med., 92:690, 1980.) The authors sought to find out from a sample of 449 general internists how they first heard of the drug, how they learned the principles of using it, and how they gain update information about it.

Cimetidine provided a happy innovation to investigate, since it was new, often prescribed, and was first marketed after all the physicians in their study had entered practice. The responses arranged in rank of order showed considerable similarity in pattern, especially for the "winning" methods.

Source	First Knowledge		Principles of Use		Update Information	
	%	Rank	%	Rank	%	Rank
Medical Journals	42	1	28	1	31	1
Continuing Education Program	18	2	18	2	16	2
Physician Colleagues	12	3	12	3	11	3

Other methods, but still with smaller percentages for each item, included hospital rounds (7%, 5%, 4%), drug company representative (4%, 7%, 5%), thus refuting the fre-

quent allegation that "most practitioners get their drug information from detail men"), *Medical Letter* (4%, 7%, 9%), advertisements in medical journals (3%, 2%, 1%), audiotape service, medical books, patients, popular media, PDR, drug inserts, pharmacist (a remarkably low 1%), and videotape. The number responding "unknown" was remarkably low (2%, 4%, 4%).

Some important questions arise from such a study. First, is it methodologically flawed because it depended on physicians' memories? (Probably somewhat, yet there is no other real-world way of finding out.) Is this sample of internists representative of all physicians? (Who knows?) And does the story of cimetidine suitably represent all kinds of new facts and skills? (Again, who knows?) Only with attempts to replicate this sort of study, using other populations and other content issues, will we ever find out. But the results have an appealing "face validity," that is, they seem right — they seem to match up with common

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***"Should I, involved as I am in the generation of continuing medical education programs, feel discouraged that among this group of physicians only about one-sixth cited CME programs as their source of knowledge?"***

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sense and other experience. Other surveys have attempted in a less specifically experimental fashion to plumb physicians' memories and attitudes toward sources of their learning, and have obtained approximately the same general results.

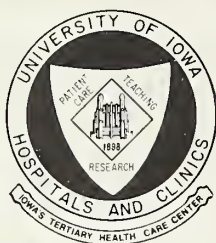
Should I, involved as I am in the generation of continuing education programs, feel discouraged that among this group of physicians only about one-sixth cited CME programs as the source of their knowledge? Maybe I *should*, but I'm *not*. As I've said before, I feel it's necessary (in this business, anyway) to be content with small victories. And besides, when I consider how much knowledge and skill there is, its constantly changing character, how many practitioners there are and how important it is that the learning take place, then one-sixth of that big total doesn't seem to me such an inconsequential victory. It brings satisfaction and fuels my motivation to do more.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

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# DRUG THERAPY REVIEW

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## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

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*Editor's Note — The use of drugs approved by the Food and Drug Administration for unapproved medical conditions has caused considerable confusion. Drs. Kasik and Solomons discuss this problem and outline a solution in the following article.*

**REYNOLD SPECTOR, M.D., Editor**

### APPROVED DRUGS USED IN A NONAPPROVED WAY

ONCE UPON A TIME, which drug a doctor used and in what dose was between him, the patient, and perhaps God. Certainly, it was none of the business of the federal government. In that innocent, pre-Kefauver era, the Food and Drug Administration (FDA) was responsible only for the safety of drugs, and claims of drug efficacy, as made by some of the members of the pharmaceutical companies, were often less than accurate. As a result, this unsatisfactory situation attracted the attention of the public and Congress, and in 1962, the FDA was mandated a responsibility to see that the drugs used in this country were safe, effective, and not falsely advertised. This meant that before a

drug company could claim that a new drug was useful for the treatment of a specific disease, it must file acceptable evidence with the FDA that it did indeed have a salutary effect in that condition. In addition, even if approved for that disease, before the drug company could advocate its use for another disease, appropriate data to support this additional claim must be filed and accepted as well.

As a result, all forms of drug labeling, including the package insert, the Physicians Desk Reference (PDR), and that legal extension of the drug label called advertising, can list as indications for use only those conditions for which a drug has been shown to be effective to the satisfaction of the FDA. Its use in that circumstance constitutes an "approved" use so long as the drug is used at the dose published for that indication. By inference, if a condition or disease does not appear on that list and the drug is used to treat that unlisted medical problem, the drug has been used in a "nonapproved" way. The drug may also be used in a "nonapproved" way if administered in a dose or by a route not listed, or to an age group outside those specified.

Unfortunately, any physician can probably recall a situation where he or she has used drugs for a condition not listed in the package insert, or at a dose or by a route of administration not mentioned. For example, those who are using one of several vasodilator drugs for certain kinds of shock or heart failure, who are enthusiasts for megadose penicillin, or prescribe propranolol for the treatment of non-specific tremors, are using an "approved" drug in a "nonapproved" way.

Some of the potential problems that could arise out of this kind of use are obvious. A physician who uses an approved drug in a nonapproved way is operating in an area of therapeutics outside the usual guidelines developed by the FDA.

One of the more horrendous pictures that could be imagined as arising out of this situation is the one of a sincere young physician sitting and sweating in a witness chair, having a package insert waved in his face by a very aggressive tort lawyer.

Less dramatic, but perhaps even more disturbing, are the potential long-term effects of this situation. It could mean that drugs could only be used for the therapy of diseases for which the FDA has received, reviewed, and

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This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.



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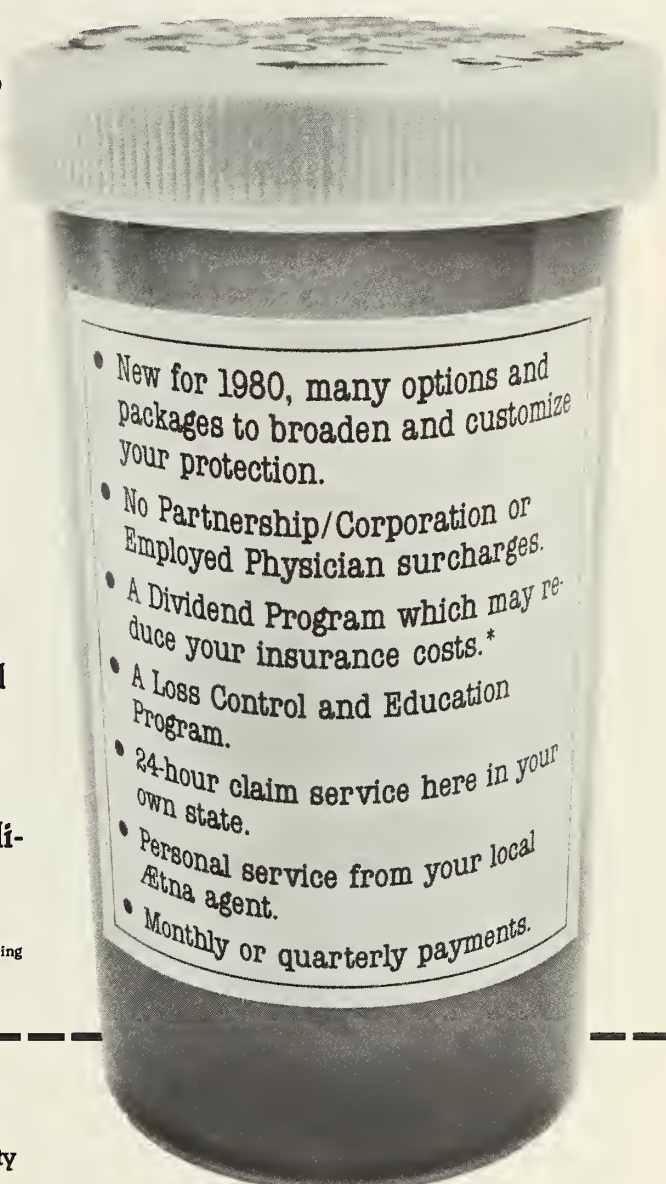
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accepted data which documents efficacy, and that the drug would have to be used in the dose and by the same route as in the studies that provided that data. Since the FDA frequently acts with glacier-like speed and is not immune to outside pressures, both pro and con, delays between what has been accepted as useful therapy by intelligent physicians and the time it takes a drug company to complete the paperwork and get FDA approval may be years.

Finally, the ultimate effect could be that the FDA, not the patient's physician, is the one who decides what is best for that individual. This represents a revolutionary change in our concepts of health care since it challenges a 2,000-year-old principle of medicine; that it is the physician, in consultation with the patient, who decides what is best.

This situation was an alarming one and as a result, the subject of numerous editorials and commentaries pointing out the potential for serious damage which had arisen out of the well-intentioned efforts of the Congress to prevent abuses in drug advertising. Quite clearly, this has been recognized by the members of the FDA and they have responded in an enlightened manner which indicates that they recognized the serious problems which could occur if they were made ultimately responsible for all drug use. They have provided a set of principles that can avoid most of the potential problems that might occur and have deftly removed the federal government from becoming the final arbitrator of drug therapy. These are worth quoting in detail:

*... Concerning the use of a drug for conditions not included in its labeling, the labeling is not intended either to preclude the physician's use of his best judgment in the interest of the patient or to impose liability if he does not follow the package insert. The Commissioner clearly recognizes that the labeling of a marketed drug does not always contain all the most current information available to physicians relating to the proper use of the drug in good medical practice. Advances in medical knowledge and practice inevitably precede labeling revision by the manufacturer and formal labeling approval by the Food and Drug Administration. Good medical practice and patient interests thus require that physicians be free to use drugs according to their best knowledge and judgment. Certainly, where a physician uses a drug for a use not in the approved labeling, he has the responsibility to be well informed about the drug and to base such use on a firm scien-*

*tific rationale or on sound medical evidence, and to maintain adequate medical records of the drug's use and effects, but such usage in the practice of medicine is not in violation of the Federal Food, Drug and Cosmetic Act. (Federal Register, Vol. 40, No. 67, April 7, 1975.)*

This all seems very clear. It is up to the physician to decide what is best for the patient. While it is expected the physician will be aware and heed the information contained in drug labeling, the physician is free to use that drug in ways, either in doses or for the therapy of diseases, not listed in the package insert if the physician has decided that it is the best therapy for a patient. In other words, the FDA has recognized the limits of its responsibilities, but in doing so has left a residual of responsibilities with the physician.

The last sentence of the paragraph from the *Federal Register* makes those responsibilities clear. "*... He has the responsibility to be well informed about the drug and to base such use on a firm, scientific rationale or on sound medical evidence and to maintain adequate records of the drug's use and effects. . . .*" In other words, it is important that the physician is prepared to justify that decision by his knowledge of appropriate evidence that use of the drug in the way contemplated is the best or only available therapy.

In addition, that therapy needs to be accompanied by suitable progress notes indicating the rationale of the therapy and its effects. Finally, in keeping with sound medical practice, it might also be wise to discuss the matter with the patient and/or the family so that an informed consent is obtained.

There is no doubt that prescribing has become and is becoming more complex both medically and legally. The advent of the patient package insert and other recent developments in this area indicates these developments. The wise physician should be aware of them and be prepared to make that additional effort to acknowledge them. — J. E. KASIK, M.D., *Professor of Medicine*, and GERALD SOLOMONS, M.D., *Professor of Pediatrics*

#### REFERENCES

1. Committee on Drugs: Unapproved uses of approved drugs: The physician, the package insert and the FDA. *Pediatrics* 62:262, 1978.
2. Labeling for prescription drugs used in man: Proposed format for prescription drug advertisements. *Federal Register*, 40(67), April 7, 1975.
3. Mandl, F. L. and Greenberg, R. B.: Legal implications of preparing and dispensing drugs under conditions not in a product's official labeling. *Am J Hosp Pharm*, 33:814-816, 1976.
4. Temple, R.: Legal implications of the package insert. *Primary Care* 1:519, 1974.



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Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg; bismuth subgallate, 22.5 mg; bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

**Indications:** Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, anal fissures, incomplete fistulas and relief of local pain and discomfort following anorectal surgery.

Anusol-HC Cream is also indicated for pruritus ani.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol® Suppositories or Ointment. **Contraindications:** Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations. **Warnings:** The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

**Precautions:** Symptomatic relief should not delay definitive diagnoses or treatment.

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Anusol-HC is not for ophthalmic use.

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bedtime for 3 to 6 days or until inflammation subsides. Then maintain patient comfort with regular Anusol Suppositories.

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# STATE DEPARTMENT/ PUBLIC HEALTH

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## HEALTH PROMOTION-RISK REDUCTION PROGRAM

A Health Promotion-Risk Reduction Program for the State of Iowa was established in February 1980 with the State Department of Health as the lead organization. The purpose of the grant program is to assist state and local health agencies in initiating, strengthening, and delivering health education programs and to coordinate grant activities in the state. The program encourages participation and coordination of efforts by all agencies, public and private, involved in health education programs. There is emphasis on personal choice health behavior to reduce premature death and disability associated with cigarette smoking, obesity, hypertension and other chronic and preventable health conditions and diseases affecting the people of Iowa.

The objectives of the program are as follows:

1. To identify and inventory existing health education-risk reduction services and programs in Iowa.
2. To establish a working relationship between the State Department of Health and specific public and private agencies with interests or services related to health promotion-risk reduction. Cooperation between agencies will facilitate coordinated approaches to risk reduction.

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This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

3. To collect prevalence and attitudinal baseline data. A survey created to collect data in the areas of alcohol abuse, smoking, obesity, hypertension, stress and exercise will be provided by the state office to communities interested in developing or improving risk reduction programs. Analysis will identify areas of high risk where intervention efforts might best be focused.

4. To establish, maintain, and/or upgrade an inventory of existing data or risk factors for the purpose of developing improved surveillance.

5. To stimulate proposals for risk reduction programs from local organizations already engaged in community efforts of a similar nature.

During fiscal year 1980, 11 proposals from 5 communities were submitted to the state program for review. Ten of the proposed programs were to intervene in the areas of smoking and alcohol use in adolescents. One proposal requested funding to develop an employee awareness program. Each proposal was first reviewed at the state level; selected applications were submitted to the Center for Disease Control for review and possible funding.

Three of the alcohol and smoking projects were funded for fiscal year 1981. These projects will be conducted by the county health depart-

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**What is your "State of Well-Being?" See yellow section in this issue of the JOURNAL.**

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ment, the National Council on Alcoholism and the Pocahontas-Calhoun County Boards of Health. The Iowa State Department of Health employee awareness project was also funded. This project will initially focus on Iowa State Department of Health employees with later expansion to other state employees. If successful this program will then be made available to other employee groups throughout Iowa.

The Health Promotion-Risk Reduction Program will develop in close cooperation with Iowa physicians and other individuals and groups interested in prevention. Through such cooperative efforts we can improve personal choice behavior and thereby diminish the risk of premature disabilities and death. For further information regarding this program contact: *Health Promotion-Risk Reduction Program, Division of Disease Prevention, Iowa State Department of Health, Lucas State Office Building, Des Moines, Iowa 50319. TELEPHONE: 515-281-3478*



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## September 1980 Morbidity Report

Disease	Sept. 1980 Total	1980 to Date	1979 to Date	Most Sept. Cases Reported From These Counties
Amebiasis	1	9	74	Baane
Brucellosis	0	5	6	
Chickenpox	62	7498	7142	Black Hawk, Dubuque, Foyette
Cytomegalovirus	1	18	9	Johnson
Eaton's Agent infection	2	13	35	Boone, Palk
Encephalitis, virol	9	19	51	Dubuque, Polk
Erythema infectiosum	6	404	1071	Linn
Gastroenteritis (GIV)	858	14345	13929	Linn, Palk, Johnson, Ido
Giardiasis	7	27	33	Palk
Hepatitis, A	32	135	153	Palk, Scott, Ringgold
Hepatitis, B	14	74	78	Palk, Scott
type unspecified	8	61	51	Palk, Scott
Herpes Simplex	10	80	56	Johnson, Scott, Linn
Herpes Zoster	0	1	1	
Histoplasmosis	7	21	2	Palk, Guthrie
Infectious mononucleosis	35	252	413	Black Hawk, Johnson, Linn
Influenza, lab confirmed	1	110	34	Jackson
Influenza-like illness (URI)	1914	51266	42722	Black Hawk, Ido, Polo Alta, Linn, Johnson
Meningitis				
aseptic	10	40	53	Scattered
bacterial	5	98	87	Scattered
meningococcal	0	9	10	
Mumps	4	43	233	Linn, Polk
Pertussis	0	2	2	
Rabies in animals	40	365	141	Scattered
Rheumatic fever	0	0	10	
Rubella				
(German measles)	1	9	52	Washington
Rubeola (measles)	0	0	16	
Salmonella	28	126	128	Palk, Scott, Dubuque
Shigellosis	2	41	62	Johnson, Scott
Tuberculosis				
total ill	8	69	58	Scattered
bact. pos.	4	50	51	Scattered
Venereal diseases:				
Gonorrhea	497	3830	4345	Black Hawk, Palk, Scott, Linn
Syphilis	0	14	28	
<b>Laboratory Virus Diagnosis Without Specified Clinical Syndrome:</b>				
Adenovirus — 1, Lee; Guillain Barre — 1, Jones, 1, Linn, 1, Des Moines;				
Legionnaire's — 1, Palk; Rocky Mountain Spotted Fever — 1, Black Hawk;				
Scarlet Fever — 1, Hancock, 1, Scott; Echavirus — 1, Kossuth, 1, Lee, 1,				
Palk, 2, Scott; Coxsackievirus — 1, Marshall; Compylabacter — 1, Linn, 6,				
Dubuque, 1, Palk, 1, Story, 1, Waadbury; Toxic Shock Syndrome — 1,				
Buena Vista, 1, Ido, 1, Waadbury.				

## ABOUT IOWA PHYSICIANS

### NEW DOCTORS IN IOWA

(Continued from page 451)

Haan received the M.D. degree at the University of Minnesota Medical School and interned at Marion County General Hospital. . . . **Dr. Winn H. Gregory** has joined Ottumwa Surgical Associates. Dr. Gregory received the M.D. degree at the University of Chapel Hill in Raleigh, North Carolina and completed a surgery residency at University Hospitals in Iowa City. . . . **Dr. Vedhagiri Selvakumar** and **Dr. Cyriac Chemplavil** recently began medical practice in Council Bluffs. Dr. Selvakumar specializes in gastroenterology and Dr. Chemplavil in pulmonary diseases. Both received their medical education in India and took postgraduate training in the United States. . . . **Dr. Steven Cook** joined the Oelwein Medical Clinic in July. Dr. Cook received the M.D. degree at U. of I. College of Medicine and completed his family practice residency in Waterloo. . . . **Dr. Douglas L. Stanford**, an obstetrician and gynecologist, recently began practice in Waterloo. Dr. Stanford received the M.D. degree at U. of I. College of Medicine and completed a residency at Indiana University.

**Dr. Stanley Hackbarth** has joined Iowa City **Drs. Peter Wallace** and **Thomas Rosenberger** in the practice of pediatrics. A native of Marshalltown, Iowa, Dr. Hackbarth received the M.D. degree at U. of I. College of Medicine and completed his pediatric residency at University Hospitals. . . . **Dr. Jeff Knerl** has joined the Estherville Medical Center. Dr. Knerl received the M.D. degree at Creighton University Medical School and completed his family practice residency in Sioux City. . . . **Dr. Ted Haas**



has joined **Drs. David Wetrich and John McKeown** at the Ottumwa Medical Clinic. Dr. Haas received the M.D. degree at the U. of I. College of Medicine and had his residency in obstetrics and gynecology at University Hospitals. . . . **Dr. N. V. Karhade** has joined Great Plains Internal Medicine in Sioux City. Dr. Karhade received his medical education at the Medical College of Aurangabad, India. He interned at Bergen Pines County Hospital in New Jersey; had his internal medicine residency at Veterans Administration Hospital in Bronx, New York and at Mount Sinai School of Medicine in New York City; and a cardiology fellowship at Cook County Hospital in Chicago. He was former chief of cardiology and ICU director at Veterans Administration Hospital in Fort Wayne, Indiana. . . . **Dr. John Allhiser** began family practice in Wilton in September. Dr. Allhiser received the M.D. degree at Medical College of Wisconsin and completed his family practice residency in Cedar Rapids.

**Dr. Stanley A. Blew** has joined the Ottumwa Medical Clinic. Dr. Blew received the M.D.

degree at U. of I. College of Medicine. He interned and served his internal medicine residency in Phoenix, Arizona. . . . **Dr. Dwight Kauffman** has opened a family practice in Wellman. Dr. Kauffman received the M.D. degree at the University of Minnesota Medical School and interned in Johnstown, Pa. Prior to locating in Wellman, Dr. Kauffman was in family practice in Rugby, North Dakota. . . . **Dr. Pablo Garza** recently began family practice in Marion. Dr. Garza received his medical education at Autonomous University of Guadalajara at Guadalajara, Jalisco, Mexico and completed his family practice residency in Austin, Texas. Prior to locating in Marion, Dr. Garza was an emergency room physician in Dallas, Texas. . . . **Dr. Vernon Varner** has opened a psychiatric practice in Iowa City. Dr. Varner received the M.D. degree at U. of I. College of Medicine and completed his psychiatric residency at University Hospitals. Since 1977, Dr. Varner has been clinical director of the Polk County Mental Health Center while maintaining a private practice in Des Moines.

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## ABOUT IOWA PHYSICIANS

(Continued from page 483)

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Two physicians recently joined the medical staff at Mercy Hospital in Mason City. They are **Dr. H. Fred Oakley** and **Dr. Leslie A. Torgerson**. Dr. Oakley received the M.D. degree from Oklahoma State University and had his radiology residency at Barnes Hospital in St. Louis, Missouri. Dr. Torgerson received the M.D. degree from Washington University in St. Louis and completed his pathology residency at Letterman General Hospital in San Francisco, California. . . . **Dr. Stanley Hartanowicz** recently joined the medical staff of Keokuk Area Hospital. Dr. Hartanowicz received the M.D. degree from the Universidad Autonoma De Guadalajara, Guadalajara, Mexico. He interned and had a urology residency at New York Medical College. . . . **Dr. Kevin Lee Schminke** and **Dr. Jeffrey A. Ver Heul** recently began internal medicine practice in Fort Dodge. Both Dr. Schminke and Dr. Ver Heul received their M.D. degrees from U. of I. College of Medicine and had residencies in internal medicine at Iowa Methodist Medical Center in Des Moines.

## DEATHS

**Dr. Elmer DeGowin**, 78, founder of the University Hospital's blood bank, died August 31 at the hospital. Dr. DeGowin received the M.D. degree at the University of Michigan. He had served on the faculty in the Department of Internal Medicine at the U. of I. since 1932. During that time, he founded one of the first blood banks in the country, developed a solution to preserve whole blood, founded and managed the Central Fluid Laboratory, designed patient records and directed the Thyroid Clinic. He was awarded the American Medical Association's Gold Medal in 1939 and was named "Iowa Internist of the Year" by the Iowa Clinical Society of Internal Medicine in 1978. In 1949, he co-authored the first modern text on "Blood Transfusion." Another of his

books, "Bedside Diagnostic Examinations" has become a standard text in U.S. medical schools and has been translated into German, Italian and Spanish. Memorial contributions can be made to the University of Iowa Foundation.

**Dr. Paul F. Chesnut**, 65, longtime Winterset physician, died September 2 at his home in Winterset. An Eldora native, Dr. Chesnut received the M.D. degree and interned at U. of I. College of Medicine. He began his medical practice in Winterset in 1940 following completion of his internship.

**Dr. Wayne B. Brown**, 75, Mt. Pleasant, died September 19 at the Henry County Health Center. Dr. Brown received the M.D. degree at U. of I. College of Medicine and interned at Methodist Hospital in Indianapolis, Indiana. A World War II veteran, Dr. Brown was on the medical staff of the Mental Health Institute in Mt. Pleasant from 1930 to 1975.

**Dr. Donald F. Rodawig, Sr.**, 75, Spirit Lake, died at his home on Lake West Okoboji September 16. Dr. Rodawig received the M.D. degree at the U. of I. College of Medicine and served his surgery residency at the University of Vienna in Austria. Dr. Rodawig began his medical practice in Spirit Lake in 1930, retiring in 1977. During World War II, he was a surgeon in the U.S. Army. Dr. Rodawig helped establish the Marcus Snyder Memorial Hospital in Spirit Lake in the 1930's and operated it until 1959 when Dickinson County Memorial Hospital opened.

**Dr. Sidney H. Robinow**, 52, Des Moines, died September 21. Dr. Robinow received the M.D. degree at the University of Zurich in Switzerland. A Des Moines physician for 16 years, he was chief of orthopedic surgery at Mercy Hospital Medical Center; member of the medical staffs at Iowa Lutheran Hospital and Northwest Community Hospital; member of the teaching staffs at Veterans Administration Medical Center and Broadlawns Medical Center; member of the consulting staff at Iowa Methodist Medical Center and orthopedic consultant for the Easter Seal Scoliosis Clinic.

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# IOWA MEDICAL ASSISTANTS

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## AAMA NATIONAL MEETING

Hundreds of medical assistants were in Kansas City, Missouri, October 11 to 17 for the annual convention of the American Association of Medical Assistants. Theme of the 1980 meeting was AAMA — *Where Yesterday Meets Tomorrow*.

The program offered a variety of information on topics of benefit to most every assistant. Subjects covered at this year's convention included:

*Medical Records* — This workshop was aimed at informing participants on the basics of ICD-9-CM coding and ambulatory care coding possibilities under the system. The relationship between records in the physician's office and the hospital was reviewed. Various medico-legal issues were addressed, e.g., confidentiality, informed consent and release of information.

*Medical Office Economics* — This session gave those involved a chance to create an Aged Trial Balance report. Also considered were the "super bill" and its variations, special systems for disbursements and payroll, ways of improving cash flow in the office, etc.

*Healthy Relationships* — The emphasis here was on communication and how it occurs; the creation of a climate that is secure enough for a person to be open and honest with herself and others. The basic ingredients of a positive language of acceptance were enumerated. Attention was given to effective problem solving.

*Aminocentesis and Genetic Counseling* — This

specialized and important science of genetics was explained from the practical standpoint needed by every medical assistant in an OB/GYN office.

*Laws Affecting the Medical Business Office* — Interesting areas covered here were tax planning (IRAs), retirement programs, creditors' rights in cases of bankruptcy, medical collection laws and bookkeeping requirements.

*Stress Testing* — Current information was presented on exercise tolerance testing equipment. The clinical objectives of stress testing were explained.

*Paperwork: Cures and Remedies* — The dilemma of our paperwork times was considered. Ways of reducing or eliminating part of this time-consuming work were related. Word processing equipment was demonstrated.

*Hypertension* — The basic physiology of blood pressure, the equipment used for measuring and recording blood pressure, and other aspects of hypertension were described. The role of the medical assistant in control therapies was explained.

*Computerization of the Medical Business Office* — The advantages and disadvantages of computerizing the medical office were examined along with definitions and descriptions of common hardware.

*Diabetes and Diet Control* — The physiology, etiology and diagnosis of diabetes were reviewed, followed by discussion of methods of control, management and the treatment of complications.

This partial review of the 24th annual AAMA convention will demonstrate how valuable such a session is for the participating assistant and her physician employer. It was a valuable experience and is recommended for the years ahead.

## CITE FIRST ADVISOR

Floyd A. Springer, M.D., the first physician-advisor of the Iowa State Society AAMA, died July 22, 1980. Dr. Springer was a diligent and helpful supporter of Iowa medical assistants. He was one of the first advisors to the Des Moines Chapter and encouraged the formation of a state organization.

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Material for this page is compiled by Frances M. Hansen, CMA-A, of Sioux City.



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## In The Public Interest

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### Drug Info To Patients



IOWA PHYSICIANS and their patients will take part in a new government public education experiment to begin in 1981. Iowa pharmacists will participate too. Goal of the nationwide endeavor is to see if citizens will take time to read about and better understand the prescription medicine they are taking.

Probably around mid-1981 Iowans will begin getting what are called Patient Package Inserts (PPI) with certain of their prescriptions. These PPI will be in a printed leaflet form. They will be issued generally by the pharmacist when the patient picks up his/her first prescription for a particular medication.

This is a project of the Food and Drug Administration. It will cover a 3-year period initially and will involve 10 drugs or classes of drugs. About 16% of all new prescriptions will be encompassed in the program.

A gradual phase in of the PPI program will occur to include eventually printed information on the following medications: ampicillins, benzodiazepines, cimetidine, clofibrate, digoxin, methoxsalen, thiazidus, phenytoin, propxyphene and warfarin.

As Iowa physicians know, some of the most frequently prescribed medications are represented on the list. Included, for instance, are the benzodiazepine category of tranquilizers which includes Librium and Valium. The guideline insert here includes both a statement that special precautions apply to the use of the drug in elderly patients and a statement about the risk of the patient developing a dependence on the drug. The leaflet says these drugs should not be used to treat anxiety or tension due to the stress of everyday life. It cautions against using alcohol while taking the drugs.

Cost of the PPI project is not insignificant. The estimated price tag is \$21 million annually. The cost will be borne by the pharmaceutical manufacturers. Each pamphlet will cost about 18 cents, a sum that will be incorporated into the cost of the drug. The Pharmaceutical Manufacturers Association (PMA) has been

quoted as saying this federal program is "an important first step" toward the objective of getting meaningful information to the consumer.

The PPIs will tell patient readers what the drug is for, what side effects may occur and how to take the drug properly to get the most benefit. Distribution of the leaflets will also occur in the hospitals and nursing homes. In an emergency treatment situation use of the program will be exempted.

The subject of package inserts has been alive for years. The position of the medical profession has been that a blanket insert policy would not be in the best interests of some patients. What is coming into existence now addresses this concern and affords some latitude.

If, according to information issued, an Iowa physician believes it may be jeopardizing for a patient to receive a PPI, then he may direct the pharmacist over the telephone or in his/her handwriting on the prescription form to withhold the PPI. As a consequence, the PPI will not be dispensed unless the patient specifically requests it from the pharmacist. The text of the PPI is to be placed in the Physicians Desk Reference so the contents can be reviewed as to the worthiness of its distribution in particular circumstances. In brief, use of the PPI will be at the discretion of the physician unless the patient insists on receiving it.

Package inserts are required at present for oral contraceptives, intrauterine devices, and estrogens for menopausal use. The format, content and requirements of these PPIs will remain unchanged.

Advocates of the PPI program believe many of the 6 million cases of adverse drug reaction can be prevented by giving patients more information about their prescription drugs. This experiment will seek to find out.

November 1980

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Journal of the Iowa Medical Society



**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Management of anxiety disorders, or short-term relief of symptoms of anxiety; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders; atetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age.

Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

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## OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

### TEACHING IN THE COMMUNITY

On August 16 a most unusual activity took place to honor the retirement of Dr. E. H. Barg of Mason City. Retirement is not unique, nor are testimonial dinners with their associated words of reminiscence, praise and well-wishing. The uniqueness here lay in the day of medical talks presented to honor Dr. Barg by some of his former students. Now that isn't so different, either, because it happens often in academic units and learned societies. The *real* uniqueness, then, consisted in the facts that Dr. Barg and his associates don't consider him an academician, and the setting, where he has had students who returned to honor him by presenting medical talks, has been in the private practice of surgery in a medium-sized Iowa city.

But Dr. Barg has been a dedicated teacher nonetheless. With Dr. Raymond Weston he founded Surgical Associates, a group now consisting of 13 surgeons of assorted disciplines. And from the earliest organization of the group there arose the desire to bring in young physicians and provide them a full year of paid preceptorship. Many of those who took advantage of the opportunity (over 30 of them) went on to full surgical training, while others have trod other paths. But all seemed fully aware that they enjoyed excellent learning opportunities and first-rate tutelage from Dr. Barg and his colleagues. The group has also provided short-

(Please turn to page 515)

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

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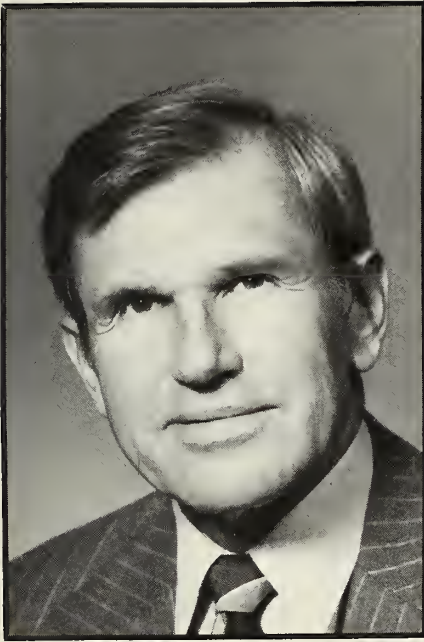
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**ABOUT THE COVER** — This scene will be re-enacted in hospitals and nursing homes across Iowa during the holiday season. Shown on the cover are Christmas troubadours at Iowa Lutheran Hospital in Des Moines. These men volunteer their services in various ways throughout the year. The picture was taken by Connie Halligan, assistant director, volunteer services, Iowa Lutheran Hospital.





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## PRESIDENT'S PRIVILEGE

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**T**HE MEDICAL PROFESSION is generally reluctant to see new laws enacted. But there's one that seems amply justified by the statistical findings, that's the return of the statute to require the wearing of protective head covering by motorcyclists.

Such a law was repealed in 1976 after a short history. In the period of the law's existence Iowa deaths from head injuries associated with motorcycle accidents dropped to 23.5%. The percentage of fatalities was 48.9% before the law became effective and jumped promptly to 40.4% in 1977 after the law was repealed.

The subject of protective helmets was discussed in an informative article in the June issue of the *IMS JOURNAL*. This paper presented a persuasive and graphic case for helmets. It concluded:

*"Iowa cyclists have proven that mandatory head protection reduces fatality and serious injuries involving this*

*part of the body. We need to promote this information about the value of head protection for all cyclists by public education programs and appropriate legislation for mandatory head protection and school safety education courses for the teenage cyclists. In this fashion, the sharp increase in head injury and fatality rate among motorcyclists can be curtailed from 66.2% in 1979 to the lower 23.5% in 1975 while mandatory head protection was in effect."*

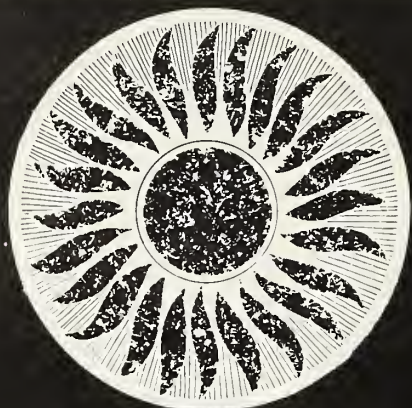
The Department of Transportation and Public Safety will urge the 1981 Iowa General Assembly to re-enact legislation to require helmets. The IMS is on record in support of such legislation and our Committee on Safe Transportation is one of the medical profession's catalysts in seeking restoration of the law.

Your interest in and support of this effort is encouraged.

*William R. Bliss, M.D.*

William R. Bliss, M.D.

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# VOX DOCS

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Please take a look at this month's Vox Docs question. It's below! Give us your answer. Send it to IMS JOURNAL, 1001 Grand Avenue, West Des Moines, Iowa 50265. Last month's question and answer results are shown to the right with several of the comments we received printed below.

"A carefully taken 'history' is of paramount value and should be prepared with deliberation as part of the periodic examination." — *John Fatland, M.D., Des Moines*

"Specific tests may be appropriate at regular intervals and potential problem areas may be reviewed depending on various risk factors (age, family history, environmental exposure)." — *Jack D. Fickel, M.D., Red Oak*

"If a meticulous examination is carried out, and not just a 'lick and a promise,' it is surprising how many times incipient pathology may be found." — *Emerson J. Steenrod, M.D., Iowa Falls*

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## LAST MONTH'S QUESTION —

What is your position on the worth of the "annual physical exam" for the adult patient with no symptomatology?

Little or no value at any time	0
Important on a regular basis	25%
Possible benefit beyond certain increased age	75%

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"I believe in most instances a routine annual physical on younger people is an unnecessary expense and not productive." — *Max Olsen, M.D., Minden*

"As in other categories of medical practice, each patient should be considered individually. Consider his age, his present and past health and his family history; from all that decide how often his check-ups should be." — *T. E. Shea, M.D., Storm Lake*

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## DECEMBER QUESTION FOR IOWA PHYSICIANS

The presidential and congressional elections have been uppermost in the minds of most Americans in recent weeks. How do you see the outcome of the elections in terms of impact on medical care delivery over the next several years?

- ☐ Will Tend to Improve Circumstances
- ☐ Undesirable Changes Are Likely
- ☐ Impossible to Tell

Comment, please: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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## QUESTIONS - ANSWERS

LEE C. CHIU, M.D.  
IOWA CITY, IOWA

### MEDICINE IN CHINA

*Dr. Chiu is a professor of radiology in The University of Iowa College of Medicine. He spent 3 weeks during October as a "visiting professor" in both Peking and Taipei.*

**Please review how medical care is provided in China.**

There are two different types of doctors in China. The first is the "country doctor," also called the "barefoot doctor." This particular physician receives 6 to 8 months of medical education. They only perform basic exams and simple first aid in rural communities. They can provide treatment such as acupuncture for local pain. A small fee will be charged to the patient for the services. Patients with complicated illnesses will be referred to the higher level of medical care. The other type of doctor is the "modern doctor," who has received 8 years of medical school training. They work in clinics or general hospitals where medical care is free of charge.

**Is western medicine quite common? Or is the herbal, acupuncture kind of care more prevalent?**

A great deal of effort has been devoted to research on acupuncture analgesia in the past, and this remains in widespread use in everyday practice in the People's Republic of China. During the decade of the "Cultural Revolution: (1966-1976), "western" medicine and the like

were slowed down. In the past two years, western medicine has returned and is becoming more popular. Combined acupuncture and western medicine, with or without herbal medicine, have been used in combination to achieve optimal results.

**Is medicine in China advanced enough for effective use of computerized tomography?**

Yes, computerized tomography (CT) is widely used in Peking hospitals of the People's Republic of China. It is used for medical problems such as tumor work-up, neurologic problems, trauma, infection, spine evaluation and other screening tests. At least 4 body CT units have been installed in the past 8 months in Peking and all are in full operation. In fact, the work load is such that there is usually a backload of 70 patients waiting for CT on each available machine. It is believed there is enough demand to warrant more machines in other hospitals in Peking and certainly in other larger provinces.

**Was your presence and expertise readily accepted or did you feel resentment of U. S. medical progress?**

Yes, my presence was well accepted and highly appreciated. In fact, they invited me to come back next year for additional and updated lectures. U. S. medical progress is very well received by the Chinese community.

**Is medical care readily available?**

Medical care is available to everybody including young, old, rich and poor alike. A small fee is occasionally charged.

**Did Chinese physicians approach you on entering this country for post-graduate work or to relocate in the United States?**

No physicians approached me seeking entry to the U. S. for post-graduate work. However, most of those I spoke with were very interested in using western methods and technology in their existing programs. They would like to have U. S. physicians come to China to share advanced knowledge.



# Percutaneous Intra-Aortic Balloon: Use in Iowa

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THOMAS M. BROWN, M.D.,  
DAVID F. GORDON, M.D.,  
LIBERATO IANNONE, M.D.,  
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INTRAAORTIC BALLOON circulatory assistance has achieved widespread clinical application since first described by Kantrowitz in 1968.<sup>1</sup> Technological advances in balloon pump systems has led to the development of a second generation balloon that can now be inserted percutaneously<sup>2-4</sup> rather than by femoral arterial cutdown.<sup>5</sup> This report describes an inves-

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\* Clinical trials carried out by Mercy Hospital Medical Center, Des Moines, IA; New York Hospital Cornell Medical Center, New York, NY; Columbia Physicians and Surgeons Medical Center, New York, NY.

The authors are in the private practice of cardiovascular surgery or cardiovascular disease in Des Moines, Iowa.

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*Use of intra-aortic balloon assistance in 12 Iowa patients is described. This has been accepted as therapy for ventricle power failure but not until recently as a modality for cardiopulmonary resuscitation. This report indicates the progress being made.*

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tigative clinical trial in Iowa with a prototype percutaneous balloon\* and a further experience with the commercially available model.

## MATERIALS AND METHOD

The percutaneous balloon contains a 40 cc polyurethane pumping chamber which is wrapped around a central wire. The winding of the polyurethane pumping chamber reduces and equalizes the diameter of the pumping chamber to that of the 4 mm catheter. (Figure 1) Utilizing local anesthesia to the femoral area, percutaneous insertion through a No. 12 French sheath is possible by the Seldinger technique. The simplicity of the insertion allows placement of the percutaneous balloon in the emergency room, at the bedside, in the cardiac catheterization laboratory, etc.

During a clinical trial from June through Au-

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AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF DECEMBER 1980.

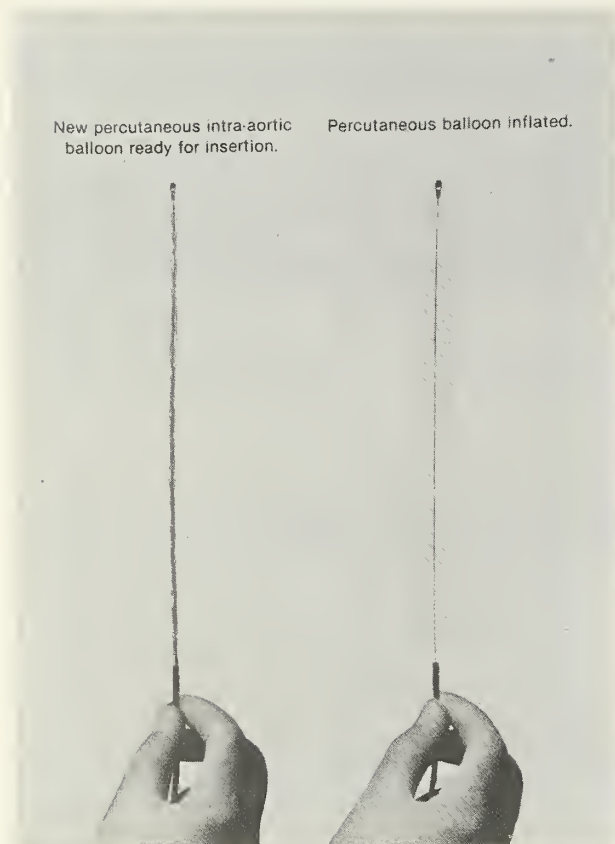


FIGURE 1 — The percutaneous balloon open and wound around the central wire.

gust of 1979, the prototype percutaneous balloon was inserted in 12 patients (9 men and 3 women). In May of 1980 commercial availability of the PERCOR<sup>TM</sup>† pump was approved by the Food and Drug Administration. Since that time 52 additional insertions have been performed with the commercial model.

The average age of the 12 patients in the clinical trial was 56 years (range 42 to 71 years). All balloons were inserted via the standard Seldinger approach. The balloon was removed from the femoral artery in the routine manner following cardiac catheterization.

The patients in the initial clinical trial were divided into two groups. Group I (8 patients) had severe left ventricular power failure. Five of these 8 patients had cardiac arrest and the other 3 were in cardiogenic shock. All were in extremis when the intra-aortic balloon pump was applied. The 4 Group II patients had the intra-aortic balloon pumps inserted during elective cardiac catheterization.

† PERCOR<sup>TM</sup> Balloon, Datascope Corporation, Paramus, New Jersey.

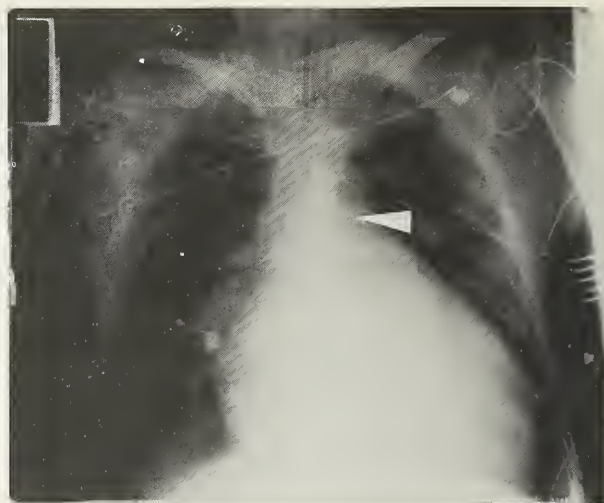


FIGURE 2 — Chest X-ray of a patient with a percutaneous balloon in place. (Arrow)

Insertion time, hemodynamic efficiency and pumping time were evaluated in all patients. A careful examination of the vessel puncture site was made upon removal of the PERCOR pump.

#### RESULTS

Four of the 8 Group I patients survived (50%). The 4 deaths occurred in the 5 patients in whom balloons were inserted during cardiopulmonary resuscitation. The balloon was inserted in these 5 when conventional resuscitative measures failed. The balloon allowed immediate resuscitation of all 5 (100%) and long-term survival of one (20%). All Group II patients survived. There were no complications during the percutaneous insertion or removal of the balloons. The placement and (Figure 2) hemodynamic effectiveness appeared to be identical to the standard intra-aortic balloon pump. (Figure 3) One balloon was left in place in a Group I patient for 21 days and removal was routine with pressure applied to the arterial puncture site. Doppler studies of the extremities 6 months after the removal of this balloon were normal. (Figure 4) Three additional Group I balloons were left in place for 4, 7, and 12 days and their removal was uneventful.

The 4 patients in Group II had the balloons inserted during cardiac catheterization for the following indications: One patient had a cardiac arrest during coronary angiography that demonstrated in this patient a 95% left main coronary artery stenosis. A percutaneous balloon was inserted through the catheterization



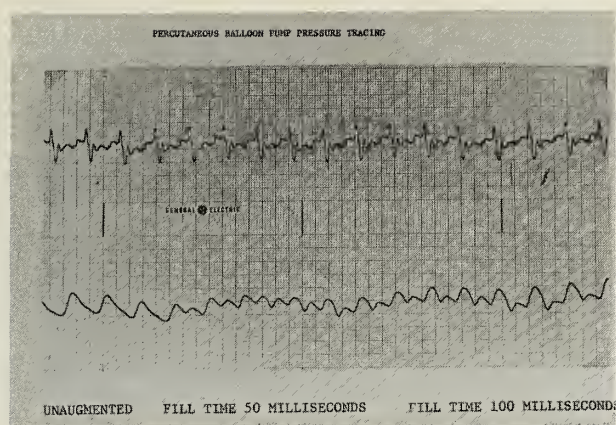


FIGURE 3 — Augmentation wave provided by the percutaneous balloon during gradual increase in the fill time.

site and was resuscitated with the balloon and drugs. He was taken directly to surgery and underwent successful coronary artery revascularization. The second patient had aortic stenosis with a 130 mm aortic transvalvular gradient and arrested during the ventriculogram. The patient was resuscitated with the use of the percutaneous balloon pump and underwent successful valve replacement. Both balloons were removed after surgery without complications. The third Group II patient had severe triple vessel disease and a biopsy-proven carcinoma of the stomach. He had the balloon inserted to support him through his gastric surgery. Three days after his gastric resection, the balloon pump was removed uneventfully. The other Group II patient with previous catheterization-proven severe triple vessel coronary artery disease and a 90% left main coronary artery stenosis became hemodynamically unstable after sustaining a cerebrovascular accident. This patient was supported through the acute phase of his cerebrovascular accident with the balloon and underwent successful revascularization surgery following recovery from the CVA.

All patients, except the last one with the cerebrovascular accident, received systemic sodium heparin as a continuous infusion to maintain the partial thromboplastin time between 75 and 120 seconds.

Average insertion time was 5 minutes. The average implant time was 11 days for Group I and 5 days for Group II patients. Total patient survival was 8 of 12 (66%).

In one patient the balloon could not be passed through the right femoral artery but

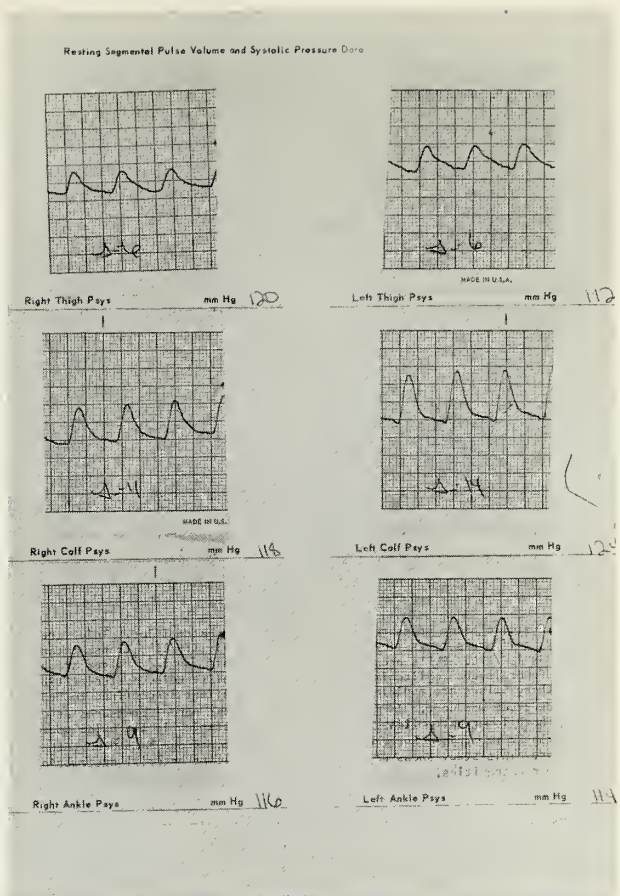


FIGURE 4 — Doppler studies of both extremities of a patient 6 months after balloon explant. The balloon, which was in place for 21 days in the left common femoral artery, left no abnormality in the arterial system.

was passed via the left femoral artery. Passage of the guidewire through the initial needle puncture site confirmed patency of that vessel. Of patients followed up to 14 months who had percutaneous balloons revealed no evidence of circulatory insufficiency by clinical or Doppler examination at the vessels or distal to where the balloon was inserted.

#### DISCUSSION

Since its first clinical application by Kantrowitz in 1968<sup>1</sup> the intra-aortic balloon has become a widely accepted therapy for ventricle power failure but not accepted as a modality for cardiopulmonary resuscitation. The difficulty of application and the accompanying complications of the standard balloon are often dictated by the spectrum of patient pathology and their physical environment. Many of the preceding patients, though usual candidates for standard intra-aortic balloon pumping, could not have

(Please turn to page 506)

(Continued from page 505)

had one implanted safely and sterilely in an emergency setting of active cardiopulmonary resuscitation. Eight of the 12 described patients were in or near cardiac arrest at the time of insertion of the balloon. One can conceptualize the difficulty of surgical implantation of a standard balloon in a patient undergoing cardiopulmonary resuscitation. Two patients undergoing cardiopulmonary resuscitation in the emergency room were asystolic, and 3 others had refractory ventricular fibrillation and were resuscitated only after the percutaneous balloon was inserted and functional. Even though the balloon is most effective in patients with a stable cardiac rhythm, coronary perfusion is augmented when asynchronous pumping is provided during cardiopulmonary resuscitation. Because of the simplicity of application of the percutaneous balloon, its use for cardiopulmonary resuscitation should be considered.

Surgical implantation of the standard intra-aortic balloon is limited by the availability of specialized physicians and assistants who are

familiar with arterial surgery and intra-aortic balloon equipment. The percutaneous intra-aortic balloon avoids surgical exposure of the femoral vessel and anastomosis of the graft to it. Discontinuation of this balloon avoids a second surgical procedure to remove the balloon and often the graft. Percutaneous insertion of the intra-aortic balloon allows a simpler and more rapid insertion, thereby allowing application of the intra-aortic balloon to a wider spectrum of patients. This second generation, "simpler" percutaneous balloon also allows a physician who is familiar with Seldinger arterial puncture techniques and balloon pump management to insert it.

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# Problem-Oriented Electron Microscopy In Tumor Diagnosis

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STEVE S. LEE, M.D.

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THE HIGH RESOLUTION capability of electron microscopy (EM) has been applied successfully in the study of biological material. Vast amounts of scientific data have been accumulated as a consequence of the availability of various EM preservation techniques and standardized processing procedures.

Many investigators in biology and medicine have taken advantage of EM. However, it has only been recently that "diagnostic electron microscopy" has begun to gain acceptance among diagnostic pathologists. There has been a widespread misconception that EM study involves sophistication and intellectual capacity that exists only in academia where critically controlled fixation and processing procedures exist. Stringent discipline to this ultimate degree is perhaps impractical and unrealistic in most pathology laboratories. Consequently, many pathologists have been reluctant to use EM as a diagnostic tool except in such limited areas as renal disease. Another point of concern to the pathologist is the limitation EM places on the size of the samples and the scope of the sampling. It all represents a sizable in-

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*Several illustrations are given to show how electron microscopy can be used effectively to pinpoint diagnostic alternatives. Use of the concept is said to have potentially significant benefits in the therapy and management of certain cases.*

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vestment of time to study a small amount of tissue.

Application of EM in the study of neoplasia has been undertaken with enthusiasm. Initial efforts to show the efficiency of EM in this area proved futile. To deal with the problems previously noted, Mercy Hospital Medical Center has developed a concept of problem-oriented EM in pathology diagnosis. Here EM study is used to resolve problems discretely defined by light microscopic examination. Using this concept we have applied EM to diagnostic problems in our laboratory and we present the several following examples to demonstrate how the approach has been beneficial.

**CASE 1.** A 54-year-old male with obstructive jaundice was found to have a diffusely infiltrating tumor in the porta hepatis. The light microscopic diagnosis indicated either reticulum cell sarcoma or anaplastic carcinoma. To resolve the problem, EM was applied to discover cytoarchitectural features of epithelial cells. Thus, an unequivocal diagnosis of anaplastic carcinoma was established (Figure 1).

**CASE 2.** A 60-year-old female presented with recurrent scalp tumor 2 years after excisional biopsy. The diagnostic options with

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Drs. Min and Song are associated with the Department of Pathology at the Mercy Hospital Medical Center in Des Moines, Iowa. Dr. Lee is affiliated with Creighton University in Omaha, Nebraska.



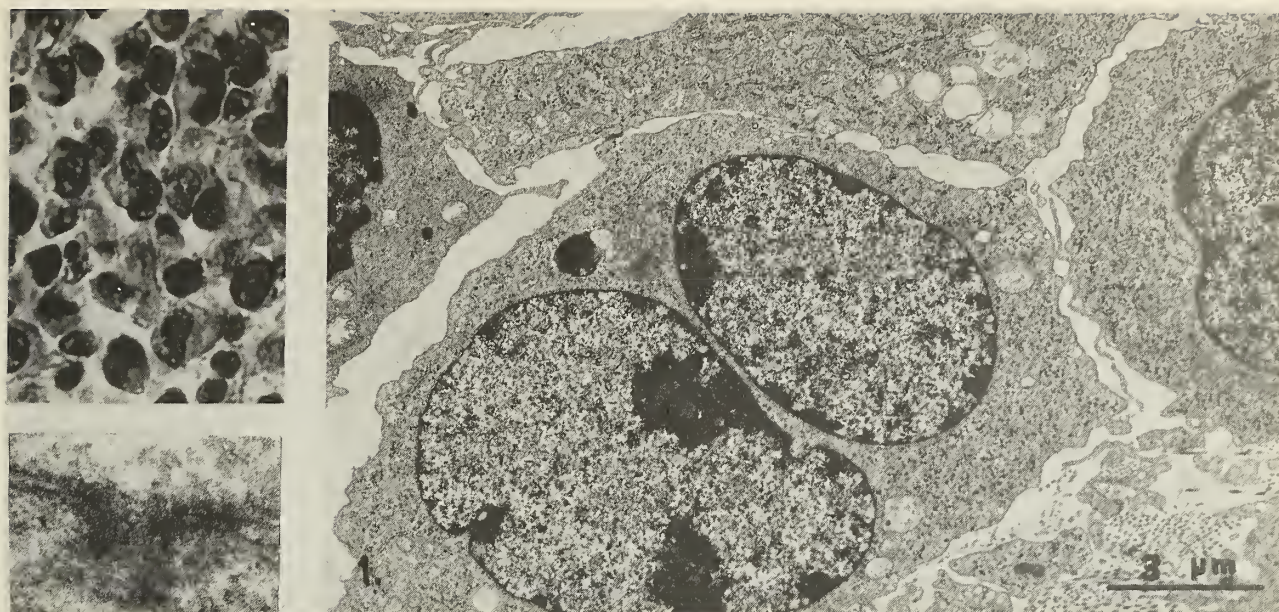


Figure 1. The tumor in Case 1 was "reticulum cell sarcoma" (upper left). EM showed features of epithelial features including cell junctions (lower left).

light microscopy were either amelanotic melanoma, anaplastic carcinoma, or malignant histiocytoma. EM revealed numerous phagolysosomes in the cytoplasm. No premelanosomes were found. A diagnosis of malignant granular cell tumor was made. Later, the patient developed metastasis to the posterior cervical lymph nodes (Figure 2).

**CASE 3.** A 71-year-old male was gastroscopied for abnormal X-ray findings associated with Guaiac-positive stools. A biopsy revealed areas of islands of small anaplastic cells. The diagnosis was small anaplastic carcinoma, primary or secondary, or lymphoma. EM revealed membrane-bound neurosecretory granules similar to enterochromaffin granules and the tumor cells were limited by basal lamina establishing the diagnosis of carcinoid tumor. The lesions were successfully resected (Fig. 3).

Our experience indicates EM is useful in pathology diagnosis. At times it has provided a significant impact on patient care. The technique should be used to better define specific problems. Its benefits are available in broad disease categories using a variety of routine specimens processed in suboptimal conditions and yet producing excellent ultrastructural preservation. Furthermore, EM study may be the only diagnostic test to make the correct diagnosis as demonstrated in Case No. 3. Its utilization may have an immense impact on the therapy and management of a disease.

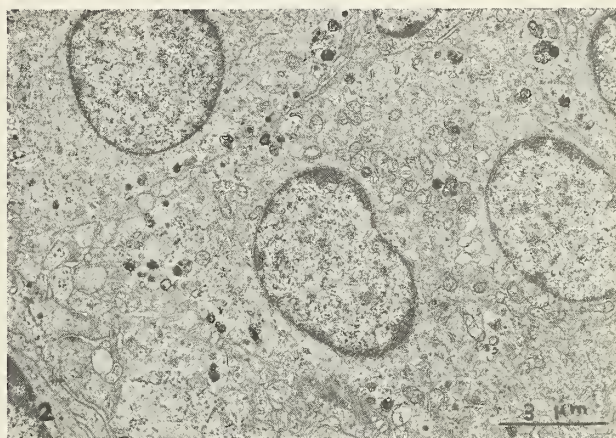


Figure 2. The tumor cells in Case 2 showed numerous phagolysosomes.

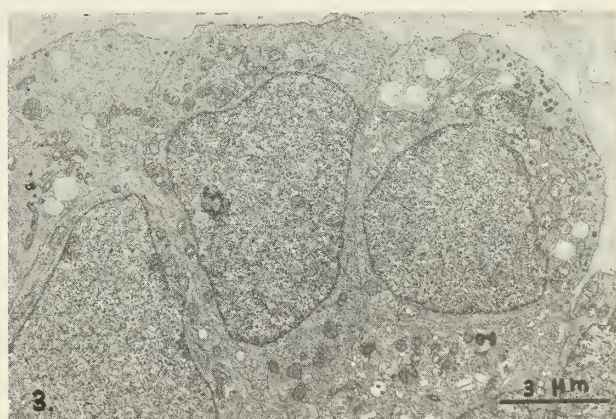


Figure 3. The tumor cells in Case 3 had neurosecretory granules and they were surrounded by the basal lamina.



# Plasma Exchange at the University Of Iowa Hospitals and Clinics

JOHN A. KOEPKE, M.D.

ALTHOUGH IT was as early as 1952 that plasmapheresis was first used for the removal of paraproteins in a patient with myeloma, it is only within the last decade that a variety of blood cell separator instruments have made larger volume plasma exchange procedures possible. In the early 1970's, the first cell separator to produce platelets was purchased for the University of Iowa Hospitals and Clinics and now 6 cell separators are available. All the donor room staff are trained to perform these procedures thus offering maximum flexibility in providing both platelet and leukocyte transfusions as well as patient therapy.

In 1977, a program for plasma exchange on selected patients was initiated. To date 27 patients have undergone over 150 plasma exchange procedures. While several of these patients have undergone only a single procedure some have had as many as 20 procedures. While this therapeutic mode is not a technique to be recommended indiscriminately, results thus far are sufficiently encouraging and indicate a definite, if limited, therapeutic role for plasma exchange. However, significant questions remain which require further study, in-

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*This paper reports on 27 patients who underwent over 150 plasma exchange procedures. Results are described as encouraging and demonstrate a definite therapeutic role for plasma exchange. Indications, techniques, therapeutic effects and untoward reactions are discussed.*

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cluding carefully controlled studies, before they can be satisfactorily answered.

## PLASMA EXCHANGE INDICATIONS

The sometimes almost miraculous improvements following exchange transfusion procedures in hemolytic disease of the newborn are well documented. In this disease whole blood is exchanged, simultaneously removing excess unconjugated bilirubin (to prevent kernicterus) and treating the anemia. Both are important in the treatment of this disease. Thus while somewhat more comprehensive than plasma exchange alone, the treatment of this disease provides a model for the more widespread use of this technique. While the rationale for the use of this modality in hemolytic disease of the newborn is to remove excess anti-erythrocyte antibodies as well as elevated levels of bilirubin, additional mechanisms are sometimes invoked to explain the improvement noted in the enlarging list of diseases being treated in this way. These mechanisms are found in Table I. And just as more than one mechanism has been noted in hemolytic disease of the newborn, salutary effects are sometimes felt to be due to the removal of more than a single substance from the patient's circulation.

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This paper was prepared in 1979 at which time the author was Medical Director, Transfusion Service, The University of Iowa Hospitals and Clinics. Dr. Koepke now holds a similar position at Duke University in Durham, North Carolina.



Disorders for which plasma exchange may offer some significant advantages are found in Tables II and III. Conditions found in Table II are becoming more widely accepted as diseases usually helped by plasma exchange. The disorders listed in Table III, however, continue to be debated. Results in these diseases have been equivocal and even short term results have not been outstanding. It is in these conditions then that controlled and randomized trials are so important in order to avoid the unnecessary expenses and risks of this procedure.

#### PLASMA EXCHANGE TECHNIQUES

A variety of methods are used for plasma exchange due in part to the diverse conditions being treated. While the methodology is sometimes well documented in published reports, in other instances it is difficult, if not impossible, to ascertain the details of the procedure. And since the medical community is still learning a great deal about the procedure it is likely that some variability will persist in the foreseeable future.

In the University of Iowa Transfusion Service the procedure has been standardized as outlined here, although modifications are sometimes made when deemed appropriate. The procedure is done using the Haemonetics Model 30 Blood Processor. The patient's blood volume is estimated to be 7% of the body weight and the plasma volume (EPV) is calculated as noted based upon a venous hematocrit (v/v) done at the start of the procedure.

$$\text{Estimated Plasma Volume (EPV)} = 0.7 \times \text{bodyweight (kg)} \times \frac{1.00 - \text{Hct}}{1.00}$$

At no time is more than 10% of the patient's blood volume outside of the body. As the blood is removed it is anticoagulated with ACD solution (NIH formula B), and the supernatant plasma down to, but not including, the buffy coat is removed. A volume of Purified Protein Fraction (PPF) equal to the volume of the patient's plasma removed is reinfused with patient's erythrocytes. This procedure is repeated until a total volume of plasma equal to the patient's estimated plasma volume is exchanged.

Fresh frozen plasma (FFP) is also used when indicated to avoid depletion of coagulation factors (they are absent in PPF). However, usually purified protein fraction is used due to the ab-

TABLE I  
VALUE OF PLASMA EXCHANGE

1) Remove Circulating Antibodies
2) Remove Circulating Immune Complexes
3) Remove Mediators of Inflammatory Response (e.g. Complement or Fibrinogen)
4) Remove Macroproteins
5) Remove Drugs or Toxins

TABLE II  
INDICATIONS FOR PLASMA EXCHANGE

Removal of Circulating Antibodies
Hemolytic Disease of the Newborn
Factor VIII Inhibitors
Myasthenia gravis
Autoimmune Hemolytic Anemia
Removal of Immune Complexes
Cryoglobulinemia
Progressive Nephritis
Removal of Poro-Proteins
Macroglobulinemia

TABLE III  
POSSIBLE INDICATIONS FOR PLASMA EXCHANGE

Removal of Circulating Antibodies
Idiopathic Thrombocytopenic Purpura
Immune Granulocytopenia
Goodpasture's Syndrome
Removal of Immune Complexes
Thrombotic Thrombocytopenic Purpura
Systemic Lupus Erythematosus With Decreased Complement
Removal of Poro-Proteins
Myeloma

sence of significant hepatitis risk, the avoidance of potential ABO incompatibilities and the absence of excessive citrate reinfusion. Control of input and output is better accomplished through the use of bottles rather than blood bags for the plasma reinfusions. Table IV compares several products used for plasma exchange.

#### EVALUATION OF THERAPEUTIC EFFECT

In addition to the measurement of complete blood count, chemistry panel and coagulation tests, laboratory parameters unique to the clin-

TABLE IV  
CHARACTERISTICS OF EXCHANGE FLUIDS

	Fresh-Frozen Plasma	Protein Factor Plasma
Albumin	3.2-5 g/dl	5g/dl
Gamma Globulins	Present	Absent
Citrate Anticoagulant	Present	Absent
Coagulation Factors	Present	Absent
Specific Blood Type	Required	Not Required
Hepatitis Risk	Small	Absent
Cost per Liter	\$38.00	\$158.00

TABLE V  
OBJECTIVE INDICATORS OF THERAPEUTIC EFFECT

Abnormal Proteins	Indicator
Macroglobulin	Viscosity
Myeloma Protein	Serum Electrophoresis
Immune Complex Diseases	
Cryoglobulin	Cryocrit, BUN, Creatinine
Immune Cytopenias	Neutr., Platelet
Systemic Lupus	BUN, Creatinine
Myasthenia Gravis	Anti-AChR Antibody
Goodpasture's Syndrome	BUN, Creatinine
Thrombotic Thrombocytopenia	Platelet Count
Purpura	BUN, Creatinine

ical diagnosis in the patient are measured before and after the procedure. Table V lists a number of these special studies. We feel appropriate testing to help determine the intervals between exchanges and the volumes of the exchanges is most important in our efforts to learn more about this type of treatment. Based upon these objective data rather than clinical judgment alone, reasonable assessments of the effectiveness can be made. Also, a more rational determination of the most appropriate intervals between exchanges can be made.

The more general indicators of renal function (e.g., creatinine and/or urea nitrogen) provide for an assessment of more long-lived effects. Thus, in a patient with cryoglobulinemia, while the cryocrit drops promptly during the procedure, creatinine and/or urea nitrogen levels fall at a slower rate paralleling the improving renal function. The rate of cryocrit increase then is used to set the date of subsequent exchange.

In those diseases felt to be associated with the accelerated production of abnormal pro-

teins, antibodies and immune complexes, the concurrent prescription of immunosuppressive therapy is indicated. It is readily seen that any plasma exchange is only a temporizing procedure and at this time one cannot support the use of this procedure in a manner similar to the use of chronic dialysis for end-stage renal disease. While still only theoretical, it is conceivable that in certain autoimmune diseases, lymphocytapheresis may be carried out concurrently with plasma exchange. In this way the cells associated with antibody production might be removed and thus production of the auto-antibodies could be diminished.

When using products other than whole plasma for exchange, rather marked changes occur in several standard coagulation tests. A prothrombin time (PT), partial thromboplastin time (PTT), platelet count and fibrinogen are measured before and after each procedure. The prothrombin times lengthen by 2-3 seconds, the PTT's usually become 10-15 seconds longer and platelets drop  $10-20 \times 10^9/L$ . Fibrinogen drops to about one-third of pre-treatment levels. Although the apparent loss of procoagulants is rather striking no clinical evidence of bleeding has been noted. A rather interesting and potentially useful measure of the completeness of exchange has been noted in the drop in fibrinogen levels. If fibrinogen-free products are exchanged, it is felt the difference in pre- and post-exchange values do in fact parallel the plasma volume fraction exchanged. Although these studies will be reported elsewhere, one can state at present that this has proved to be a useful measurement. With an exchange equal to the estimated total plasma volume, as calculated in the preceding, in fact, actually about a 65-70% exchange is accomplished.

#### UNTOWARD REACTIONS TO EXCHANGE

Careful fluid input-output records are kept to avoid hemodynamic problems during the procedure. In patients with compromised renal or pulmonary function, such careful control is even more important.

Mild symptoms (circumoral numbness, tingling and cramps in the extremities) are sometimes noted due to the decrease in ionized calcium during the citrate reinfusion. But these are almost entirely avoided with the use of ACD-B anticoagulant solution, rather than by



fluids other than blood bank plasma which contains additional citrate anticoagulant

Occasionally spontaneous platelet aggregation may occur, but with the use of the more concentrated ACD-A anticoagulant this is successfully prevented. One mild hemolytic episode due to a software malfunction occurred, but no patient injury was noted. Two patients appear to have had mild reactions to the apparent release of platelet serotonin with flushing,

hypertension and subsequent excretion of increased amounts of 5-hydroxyindolacetic acid, a metabolic product of serotonin. Further more definitive studies are planned if other patients also show this reaction.

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## A POINT OF VIEW

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### "HOL(ISTIC) IN THE HEAD"

THE PRACTICE of medicine is harassing for most of us, mainly because of the rate of change in knowledge and attitudes. In the midst of our stressed labors, we are assailed by what appear to be implied insults; examples include accountability, peer review, audit, and cost containment. Is holistic medicine another one of these insults? I believe and hope not.

The jargon of holism is ricocheting from unexpected directions as a plethora of scientists and mystics from diverse backgrounds are telling us about wellness. So what do they mean? In this sense, wellness is a way of life, the lifestyle you design to achieve your highest potential for well-being. It involves self-directed behavioral change and is a lifelong learning process. Placing the concept beyond the state of non-disease removes it from the formally defined boundaries of medicine. A fundamental tenet is that the individual is responsible for his or her own well-being. When provided with adequate information, goals can be set from within, and it is hoped that as such, the experience is more meaningful than is provided for by external sanctions, such as avoiding disease or prolonging life. To this end, wellness centers are developing. The services

usually available include the areas of exercise, nutrition, health education, and mental health. A wellness center is being developed for Des Moines, is scheduled to open next year, and will be called "Health Care Plus."

The noble generalities which motivate the holists have attracted numerous disciplines and non-disciplines. This confusion leaves physicians worried as to the role of wellness centers since their activities might include hugging trees, herbal enemas, reflexology, iridology, biofeedback, dream analysis, and even the practice of medicine! Physicians face the responsibility of ensuring scientific integrity for these programs although this should not stunt imaginativeness in the less definable areas of emotion and spirituality.

Primary health care practitioners have been providing partial forms of unconscious and unacknowledged holism for many years. But the wellness movement is now forming its own identity, and importantly, is in consumer-demand. The federal government has taken the posture that future improvements in health are more likely to be due to changes in lifestyle rather than to the costly proliferation of traditional scientific models. Pragmatism aside, the goals of holistic medicine are as noble as any and the chance of their realization will be enhanced if physicians will familiarize, participate, and give leadership. — JOHN A. NANSON, M.D., DES MOINES



## COMMENTING EDITORIALY

MARION E. ALBERTS, M.D.  
SCIENTIFIC EDITOR

### 'CHRISTMAS WON'T BE MERRY'

A HEADLINE in the DES MOINES SUNDAY REGISTER (11/16/80) proclaims, "Merchants Fear Christmas Won't Be Merry." One businessman is quoted, "I have not talked to any merchants who are overly enthusiastic about Christmas business at this point." Another is "cautiously optimistic about the Christmas season."

No one would argue that merchants look to Christmas shopping to bolster the balance sheet for the year. Christmas is the season of gifts and giving. As on the first Christmas, there were gifts. Those gifts were surely of intrinsic value, but they were also gifts of love and adoration. Our thoughts during the Holi-

### ON JOGGING

AS I DRIVE to the hospital early each morning, I've come to realize the sidewalks and streets are no longer lonely pathways. There are people (joggers, they're called) out there laboring to reach their goals — varying numbers of blocks or miles. Again, in the evenings many people are engaged in the same activity. It is interesting to observe these efforts. Many times I wonder about the direct value derived therefrom.

Some jog with a relaxed, smooth, easy gait. There is a fluidity in their total motion and they move along their chosen track in a well-

day Season should certainly be in the true spirit of the celebration.

Our heritage has provided for most of us a good life. As we look about, it is evident that many are not as well off as others, but for the most part, life in our country is far above that which is prevalent elsewhere in the world. Americans strive to get ahead of all competition, but let it not be at the cost of losing the basic concepts of humanitarianism and altruistic concern. Many people are feeling the crunch of the recession with inflated price-tags on consumer items. Those who can afford it least are encouraged to "use their credit" to buy more and more items of non-essential use. Perhaps it is time for all of us to retrench on our positions, take a hard look at our present plight, and develop a new strategy to unleash the shackles of the present economy. Certainly increasing debt is not the answer, for sooner or later the bills must be paid, and in the meantime the middle-man tries to increase his profit.

Let us enter the Holiday Season, and into the coming year, with a renewed desire to work together for the common good. Let us not burden our children with a legacy that is insurmountable. Greed and avarice should have not one modicum of presence in our lifestyle. Believer or not, the teachings of the One for whom Christmas is observed should be reaffirmed.

The editors and staff of the JOURNAL wish to all the best of the Holiday Season, and for the New Year a wholesome and renewed faith in the goodness of mankind. — M.E.A.

disciplined manner. These persons obviously enjoy running and undoubtedly do receive definite benefits. Their bodies are limber and their minds may well be cleansed by the wind in their faces.

Other joggers appear stiff and unrelaxed. Every step looks to be sheer torture. They have a pinched gait; they look as though their pants are too high or their supply of "Preparation-H" has run out. Their arms are held in a fixed flexed position, and their eyes are fixed straight ahead at some unattainable goal.

Still other joggers take tiny, mincing steps. They resist the extension of their gait for fear it will cause dislocation of the hips. Some amble along in a manner suggestive of a wounded elephant. Others have a peculiar bouncing gait



## EDITORIALS

(Continued from page 514)

that must be especially traumatic for the improperly supported pectoral structures of the female joggers. Others stretch their arms as though the next step will break the tape of a 100-yard dash.

Take heart, joggers, you provide a source of joy to us non-joggers. You get your exercise in your way, I get mine in my way. Yours, however, has much more entertainment value.

Oh, one last item. Please, carry some identification in your jogging uniform. Also, with the days shorter now, wear some light-reflecting garment so we can see you in the darkness. Follow the rules of the road; jog so the oncoming automobile traffic can see you. Be especially careful as the outside temperatures get bitterly cold. Relax and enjoy running.—M.E.A.

## OUR MAN ON EDUCATION

(Continued from page 495)

er periods of learning for a much larger group of young physicians and medical students.

What is it that prompts such unusual generosity of spirit and effort? Perhaps that same pleasure at nurturing and guiding that rewards any sensitive teacher (or the amateur gardener, or most parents, for that matter)? Perhaps allegiance to a (probably) unremembered taking of the oath of Hippocrates, which includes the injunction to teach the art to one's children (now meriting a broadened definition)? Perhaps a commitment to the idea that those who learn partly in the "community" rather than totally in the "academic" setting may be better equipped to function later in the community? And perhaps a recognition that being a conscientious teacher still provides one of the surest and best forms of continuing education ever devised? Perhaps still others. And whether Dr. Barg and his colleagues have these matters thoughtfully analyzed, or whether they're just proceeding on a gut feeling of what is right and pleasing to do, the result remains excellent.

So I offer this personal word of tribute to Dr. Barg and all the other well-intentioned practitioners (inside and outside of "academe") whose teaching serves so well the vital needs of their profession and of society.

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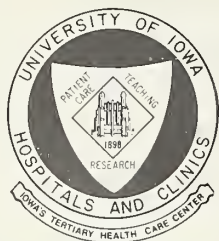
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# DRUG THERAPY REVIEW



## UNIVERSITY OF IOWA HOSPITALS AND CLINICS

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REYNOLD SPECTOR, M.D., Editor

### MEDICALLY SERIOUS ADULT OVERDOSES

Patients who intentionally or accidentally consume excess medications or other toxins (overdoses) account for more than 10% of the emergency admissions to general hospitals.<sup>1</sup> Though information is available about the treatment of intoxication caused by specific substances, little has been written about the characteristics of overdose patients requiring close medical attention in the adult population. Suicidal patients frequently overestimate or underestimate the severity of their overdose.<sup>2, 3</sup> In addition, there is minimal information about the patterns of presentation of adult accidental overdoses. This article explores the characteristics of the Iowa adult with

a medically serious overdose and indicates which drugs are likely to be involved.

#### THE PATIENTS

The charts of 53 patients admitted consecutively to the medical intensive care unit of The University of Iowa Hospitals from April, 1978 to September, 1979 were reviewed. Forty-two had intentional and 11 had accidental overdoses. This was determined from the psychiatric and medical notes in the record. One patient made 2 intentional (suicide) attempts and 1 had 3 accidental overdoses during the inclusion period bringing the total number of overdoses to 56. The age and sex ratio data can be found in Table I.

Patients were labeled serious if they were comatose, had a potentially lethal blood level, or required intubation. Forty-eight percent of the patients fell into this category, twice as many in the intentional group as the accidental group. Older males were more often involved in serious overdoses though they constituted the minority of male poisonings while younger males tended to fall into the nonserious category.

The types of patients who overdosed are shown in Table I. Patients with a diagnosis of substance abuse, affective disorder, and no psychiatric disease each accounted for a quarter of the overdoses (Table I). These diagnoses were determined in all but 2 cases from psychiatric consultations in the chart. Patients with personality disorders, psychosis, and dementia made up the remainder (Table I). In those with accidental overdoses, over one-half were substance abusers. Those receiving inappropriate prescriptions, slow metabolizers, or those who thought that "if some is good, more is better" made up the rest. In those with intentional overdoses, 29, 24, and 21% occurred in patients with no psychiatric disease, depression, and personality disorders, respectively. Patients with psychosis and dementia constituted only a small percentage of overdoses (12%) but when admitted were uniformly intentional and serious. Serious overdoses were most commonly seen in depressed patients though substance abusers and those with no psychiatric disease made up nearly 40% of the serious overdoses. Personality disorders were the least likely category to make a medically serious suicide attempt.

*(Continued on page 518)*

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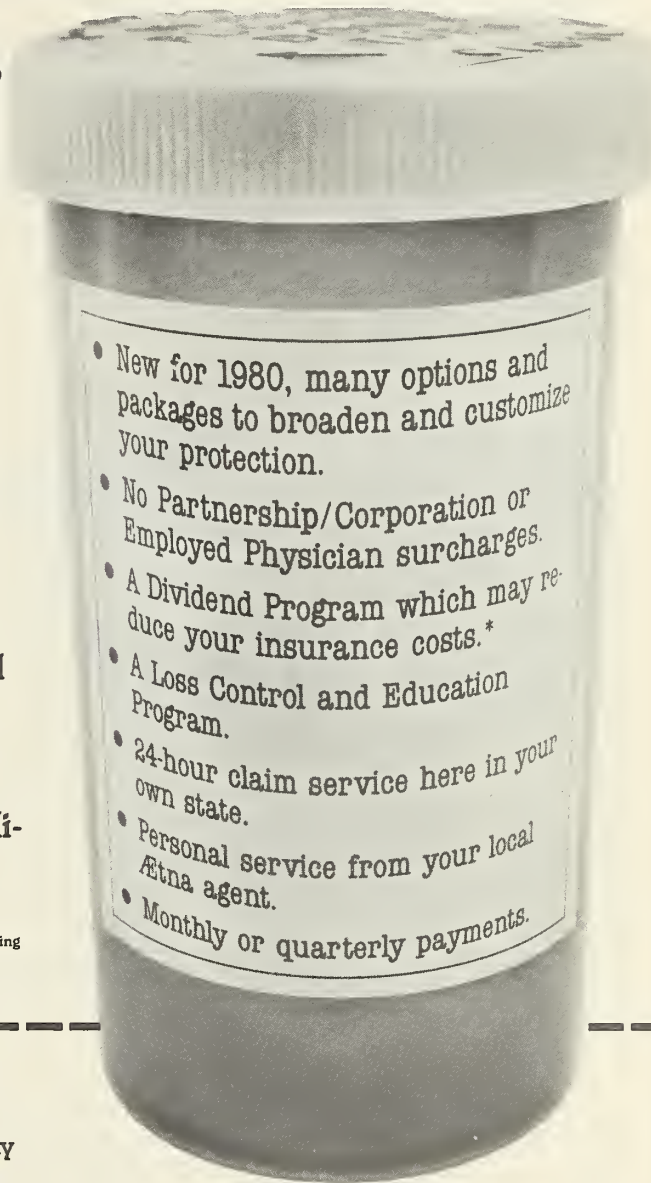
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TABLE I  
CHARACTERISTICS OF OVERDOSED PATIENTS ENTERING THE MEDICAL INTENSIVE CARE UNIT AT THE  
UNIVERSITY OF IOWA HOSPITALS

	All N = 53 (56 Attempts)	Intentional N = 42	Accidental N = 11	Serious N = 27	Nonserious N = 29
Age (Average)	32	32	32	34	26
Age (Males)	25	26	24	32	21
Age (Females)	37	37	40	35	38
Male : Female	1 : 1.4	1 : 1.5	1 : 1.2	1 : 2	1 : 0.8
Serious Overdose	48%	52%	23%		
Intentional Overdose	79%			85%	70%
Psychiatric Diagnosis					
Substance Abuse	21%	12%	55%	19%	22%
Affective Disorder	25%	24%	27%	27%	22%
Personality Disorder	17%	21%	0%	12%	22%
Psychosis	8%	10%	0%	15%	0%
Dementia	4%	5%	0%	8%	0%
No psychiatric disease	26%	29%	18%	19%	33%

#### THE AGENTS

Tricyclic antidepressants (imipramine, amitriptyline, doxepin) accounted for 37% of all the hospitalizations. Forty percent of intentional overdoses and 50% of serious overdoses involved these antidepressants as the primary agents. Tricyclic antidepressants were used in about 30% of both the accidental and nonserious groups. Barbiturates were responsible for only 16% of the drugs ingested.

The principal agent involved in these overdose patients was identified correctly in over 90% of patients prior to assay results. However, other concurrently ingested agents were frequently not uncovered by the history or false information was provided. The overall positive correlation between history given of agents ingested and drug assays revealed that only two-thirds of the histories were reliable (Table II).

#### DISCUSSION

Not surprisingly, our findings substantiate the presumption that medically serious overdoses in adults are most likely to occur in suicide attemptors. It is somewhat surprising, however, that nearly 20% of those having serious overdoses were without psychiatric disease. These data suggest that previous lack of disordered behavior should not negate the

potential seriousness of the overdose. It is also noted that approximately 40% of the patients who presented with an obvious manipulative intent were serious overdoses.

The distinction between intentional and accidental overdoses is difficult to make prior to recovery and often even after recovery of the victim. The differentiation becomes important in determining the disposition of the patient. Accidental overdoses are not committable under Iowa law though many would benefit from a drug treatment program. Since many accidental adult overdoses occur in self-medicators, there is no certainty that future intoxications will not occur. Therefore, attempts to alter the patient's misuse of medicinal agents should be made to prevent future accidental overdoses. In intentional overdoses, psychiatric consultation should be sought, if available.

Young males in our study were less likely to have serious overdoses. This information should be interpreted cautiously. With the rising incidence of overdoses among young people,<sup>4</sup> there is still a net increase in successful suicides among young males.<sup>5</sup>

The agents ingested by these overdose patients were not different between the intentional and accidental groups. Fifty percent of

(Continued on page 520)



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TABLE II  
RELIABILITY OF HISTORICAL INFORMATION FROM PATIENT AND/OR OTHER SOURCES ABOUT AGENT CONSUMED.\*

Agent Involved	Number Assayed for Drug	Group I Positive History- Positive Drug Assay	Group II Positive History- Negative Drug Assay	Group III Negative History- Positive Drug Assay
Tricyclics	15	10 (65%)	4 (27%)	1 (7%)
Borbiturates	9	7 (78%)	1 (11%)	1 (11%)
Amphetamines	4	1 (25%)	2 (50%)	1 (25%)
Mixed	19	13 (68%)	5 (26%)	1 (5%)
Sedative/Hypnotic	19	12 (63%)	3 (16%)	4 (21%)
Ethanol	13	8 (62%)	3 (23%)	2 (15%)

\* This table only covers patients where an assay for the agent involved (in the blood) was performed and the result fell into one of the above three groups.

serious overdoses resulted from tricyclic antidepressant overdoses, while less than 20% were caused by barbiturates. It appears that the shifting pattern of intoxicants described by Proudfoot and Park<sup>6</sup> in Scotland is also happening in Iowa. Since tricyclic antidepressants are involved in such a great number of serious overdoses, practitioners should prescribe these potentially lethal medications only to those most likely to respond.<sup>7</sup> Also, only a 1- or 2-week supply should be given to acutely depressed patients in most cases.

False reporting by patients and other sources is of great concern to the physician who treats overdosed patients. Our findings indicate that identification of the principal agent by history in adult patients with serious overdoses was possible in most cases. Overall reporting reliability, however, was only 66% (Table II). Since occasional false negative reporting of se-

rious intoxications occurs, and false positive reports may interfere with specific treatments, it is sound practice to assay not only for presumed substances involved but also to perform a drug screen.

Understanding adult patients with serious overdoses helps primary physicians to evaluate not only the medical aspects of these cases, but also the social and psychological aspects of treatment and disposition. This becomes of major importance either when a psychiatric specialist is not available or when the patient refuses to see a psychiatrist. A recent prospective study by Gardner<sup>8</sup> revealed that medical staff with a minimum of instruction can generally make appropriate judgments and dispositions with regard to these patients if necessary.

— ROGER G. KATHOL, M.D., *Fellow Associate, Internal Medicine and Psychiatry*

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# STATE DEPARTMENT/ PUBLIC HEALTH

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## FUTURE OF HEALTH PLANNING

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*These views and opinions on health planning have been prepared by Cooper L. Parker, Director, Office for Health Planning and Development, Iowa State Department of Health.*

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As presently structured, health planning and regulation is in serious trouble in Congress and the country. Rumbles have been heard from the countryside ever since the notorious national guidelines were unveiled in 1977. It is important to note the outcry over the guidelines came not just from rural states, but from *every* state, because they all contain rural areas, and it is these areas which are victimized by the guidelines. The point is the Bureau for Health Planning began its life by offending the states.

In fairness to the Bureau, it must be said Congress was first to offend the states by writing state and local government out of the Act. This mistake was kept before Congress and, finally, after years (and untold damage) the situation was rectified. A significant role was provided to the governors and state agencies.

In recent months, other and powerful forces have become apparent. The Carter administra-

tion proposed a cut in appropriations to the Health Systems Agencies of 30%. Congress has been the HSAs best friend and managed to soften the blow to 18%. However, the message is clear: Congress is retreating from the health planning and regulating posture it assumed in 1974. Change in the kind of regulating we do is inevitable. The questions become: what is to be the nature of the change and who will be the author(s).

As a starting point, we need to examine the major reasons for the difficulties we have encountered with the Act. The first has to do with the way we do our legislative business in Washington and in the states.

Gary Clarke, director of Florida's State Health Planning and Development Agency, testified last year before the National Institute of Medicine that Congress failed health planning by exhibiting a lack of fearless leadership when the storm over the guidelines hit in 1977. By retreating from its position, Clarke maintains Congress sounded a death knell for the HSAs. In fact, until the guidelines "flap" in 1977 Congress did not know what it had done in 1974. Under our system it is possible for a small, articulate and well-organized mixture of legislators, legislative staff and lobbyists to have legislative influence far in excess of their numbers. Unlike parliamentary systems where accountability is much more a day-to-day matter, American legislative bodies rely more on the committee system and centers of influence. Our legislators face daily issues so complex no one can reasonably expect them to be totally informed. Hence, committees become important for they give legislators the means to act efficiently and productively.

However, this efficiency renders the system vulnerable to organization and issue-politicking. That happened with P.L. 93-641. A small, well-informed group of interested people manipulated the legislative system successfully and secured passage of the Act. It was not until the Act began to manifest itself in rules that Congress *realized* what it had done. And it didn't like what it saw.

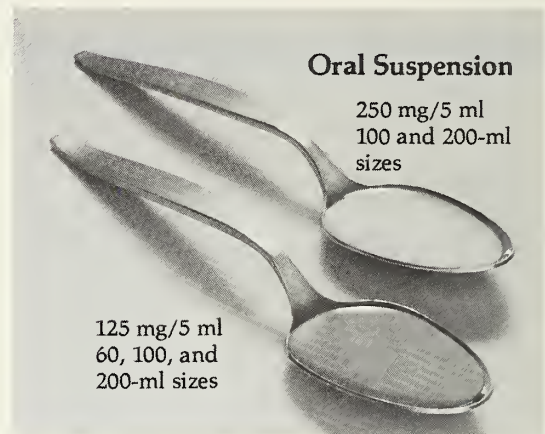
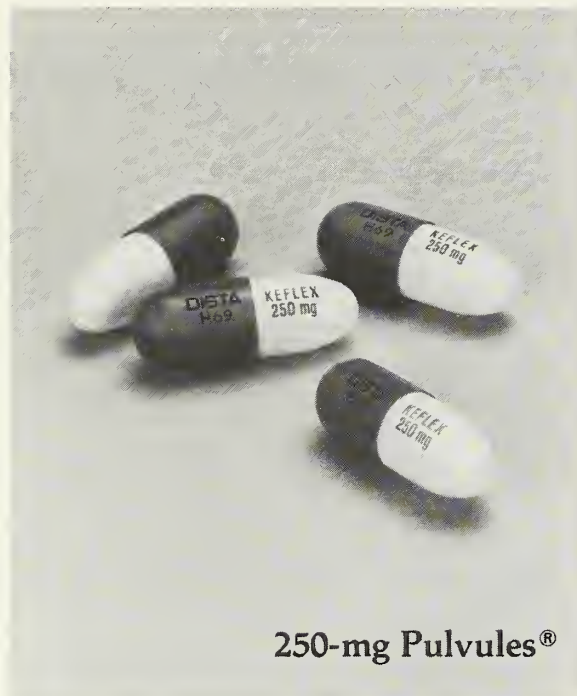
A reason for the failure of the Act is found in the role played by the major provider associations during development of the legislation by Congress. If this articulate coalition of which I have spoken is to be successful in enacting legislation, it must resolve most conflicts *within*

*(Continued on page 523)*

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## STATE DEPARTMENT/ PUBLIC HEALTH

(Continued from page 521)

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*itself*. The legislative bodies cannot deal with these on the floor, so if they cannot be negotiated in committee, the legislation is not likely to reach the floor. Consequently, legislators and their staffs approach those groups to be affected and the process of negotiation/compromise takes place.

In the case of P.L. 93-641, the provider associations were successful in removing any mention of reimbursement from the legislation. In return they agreed to give the agencies created by the Act broad authority and such formidable *sounding* tools as Certificate of Need, Appropriateness Review, Proposed Use of Federal Funds Review, etc. At the time they probably congratulated themselves on a successful head fake, which the Congressional reformers eagerly followed to their ultimate destruction. P.L. 93-641 is a toothless monster which is toppling of its own weight. The authority is so broad no agency can cover all of its mandates with the financial resources supplied to it. Perhaps we could if HHS would allow us to target priorities and budget resources accordingly. I am sure that will happen on the day the lion lies down by the lamb. Until that day, every program is a priority and it *all* has to be done, and never mind that the policy simply assures that *none* of it will get done.

But, even if we could go at the Act selectively, and accomplish all the mandates it gives us, we would have not very much. In giving away reimbursement, I am convinced, Congress gave away everything. What we pay for (out-patient diagnostic procedures?, out-patient surgeries?, pharmaceutical coordinations?), to whom we pay it (physicians and hospital only?, nurse clinicians?, psychologist?) and how we pay for it (prospectively or retrospective cost-plus) are the very essence of cost-containment. Without attention to these ques-

tions, we are left with the nit-picking and totally ineffective kind of regulatory activity that eats up so much of our resources (20% of the HSAs budgets go *directly* to project review, as much as 50% indirectly) with so little effect.<sup>1</sup>

(The percentage of the GNP going to health care is increasing even more rapidly than it was prior to 1974.)

Where, then — if anywhere — do we go from here? The Act comes up for periodic review and renewal in 1982, but we probably don't have that long to wait for change. The American Hospital Association and the American Federation of Hospitals are both "reassessing" their positions on health planning. I am sure the AMA is interested in these reassessments and has its thoughts as to the future. I expect those (and perhaps other) associations to present their ideas for change to Congress next year.

My own ideas are three-fold. 1) To streamline Certificate of Need (a Massachusetts task force, chaired by the president of that state's medical society, should be useful). 2) To return regulatory activity to the states. 3) To make competition the paradigmatic criterion for the allocation of resources.

Some important steps have been taken to provide us with a more balanced competition/regulation structure. The recent decision by the Board of Blue Cross and Blue Shield of Iowa to initiate a prudent buyer concept (and to audit hospitals in every cost center) and recent activity in health maintenance organization development in central Iowa are two. In addition there is growing concern about the alarming rate at which doctors in Iowa use acute care beds, as compared with their colleagues in the rest of the country. There is also a growing desire among HSA directors to transfer all regulatory functions to the states, and a growing awareness that we are doing a lot of unproductive regulation. The climate for reasonable change is good.

At the outset I spoke of the inevitability of change, but said that the question of the au-

(Continued on page 524)

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1. The dollars going into the system are continuing their rise. The difference is that we have shifted from investment in bricks and mortar to invest in technology. In Iowa, for instance, 68% of the C.O.N. applications received since the beginning of the program have been technology applications and 75% of the dollars approved have been for new technologies. This phenomenon provides some special problems and hazards for

planner/regulators. The explosion of technological advances leaves us panting to catch up our standards development process. We have adopted a very flexible process in Iowa; one which allows us to open the adoption process easily to accommodate new information. However, there have been instances (the radiology standards, for one) where the standard has been made obsolete before it got all the way through the adoption process.

## STATE DEPARTMENT/ PUBLIC HEALTH

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thorship of change is open. Let us not permit the legislative/lobbyist coalition to write the

script again. Neither let it be the Department of Health and Human Services. We have the opportunity to do it ourselves. In the next few months, as discussions of change intensify and negotiations become more focused, I hope to hear your opinions on my ideas for change. I would welcome your ideas.

### October 1980 Morbidity Report

Disease	Oct. 1980 Total	1980 to Date	1979 to Date	Most Oct. Cases Reported From These Counties
Amebiasis	0	9	77	
Brucellasis	1	6	7	Poweshiek
Chickenpox	161	7659	7325	Black Hawk, Dubuque, Des Moines
Cytomegalavirus	4	22	10	Scattered
Eaton's Agent infection	4	17	39	Johnsan
Encepholitis, viral	14	33	64	Scattered
Erythema infectiosum	1	405	1081	
Gastroenteritis (GIV)	1394	15739	15547	Linn, Polk, Johnson, Scott
Giardiasis	6	33	34	Polk
Hepatitis, A	23	158	165	Polk, Scott, Story
Hepatitis, B	13	87	83	Johnson, Polk
type unspecified	4	65	61	Scattered
Herpes Simplex	16	96	64	Johnsan
Herpes Zoster	0	1	1	
Histaplosmiasis	4	25	2	Polk, Pottawattomie
Infectious mononucleosis	37	289	432	Black Hawk
Influenza, lab confirmed	0	110	34	
Influenza-like illness (URI)	3954	55220	46853	Polo Alta, Linn, Johnson
Meningitis				
aseptic	25	65	81	Linn, Scott, Webster
bacterial	13	111	98	Polk

Disease	Oct. 1980 Total	1980 to Date	1979 to Date	Most Oct. Cases Reported From These Counties
meningococcal	2	11	11	Plymouth, Pocahantas
Mumps	8	51	236	Linn, Polk, Scott
Pertussis	0	2	3	
Rabies in animals	51	416	164	Marshall, Jasper, Kossuth
Rheumatic fever	0	0	10	
Rubello (German measles)	0	9	52	
Rubeolo (measles)	0	0	16	
Salmonella	30	156	156	Polk, Plymouth, Linn
Shigellosis	11	52	68	Muscatine
Tuberculosis				
tatal ill	11	78	60	Pottawattamie, Polk
bact. pas.	8	57	52	Polk, Pottawattomie
Venereal diseases:				
Ganorrhoea	496	4326	5030	Polk, Black Hawk, Scott, Linn
Syphilis	9	23	29	Polk

*Laboratory Virus Diagnosis Without Specified Clinical Syndrome:* Adenovirus — 1, Polk; Guillain Barre — 1, Bremer, 1, Lucas, 1, Polk, 1, Scott; Legionnaire's — 1, Cedar, 1, Linn; Reye's Syndrome — 2, Manano, 1, Scott; Scarlet Fever — 1, Delaware, 2, Des Moines, 1, Dubuque, 2, Polk; Tetanus — 1, Pottawattomie; Echavirus — 1, Dubuque, 1, Jocksan, 1, Johnsan, 1, Kossuth, 1, Muscatine, 1, Polk, 1, Scott; Cocksackievirus — 1, Bentan, 1, Clay, 1, Clinton, 2, Dubuque, 1, Polk; Toxic Shock Syndrome — 1, Butler, 1, Cherakee, 1, Jones, 1, Linn; Campylobacter — 3, Dubuque, 3, Polk.



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# ABOUT IOWA PHYSICIANS

**Dr. E. H. Barg**, Mason City, recently was honored for his 40 years of surgical practice by Mason City physicians and former resident preceptees who participated in a year of surgical preceptorship with Dr. Barg. At a symposium in Dr. Barg's honor, Iowa physicians included in this resident group gave presentations as follows — **Dr. Cesar Cardenas**, Lake City, presented a paper entitled, "Cardiac Pacing — Experiences in a Small Community Hospital"; **Dr. John Koch**, Cedar Rapids, "Current Status of Amputation and Prostheses"; **Dr.**

**Robert Brown**, Iowa City, "Ultrasound — Theory and Diagnostic Applications"; **Dr. A. J. Herlitzka**, Mason City, "Present Concepts in Diagnosis and Treatment of Reflux Esophagitis," and **Dr. James Stallings**, Des Moines, "Voice Restoration Following Laryngectomy and Comments on Microvascular Surgery." . . . **Dr. D. G. Bock**, longtime Fort Dodge cardiologist, has joined the Iowa State University Health Center and the Ames Laboratory Safety, Health and Protection Group. In addition to his student health duties, Dr. Bock will direct medical care at the ISU nuclear facility. He is a member of the American Board of Internal Medicine and a fellow in the American College of Cardiology. . . . **Dr. William D. Maixner**, Ottumwa family practice physician for 31 years, has retired. Dr. Maixner received the M.D. degree at the University of Nebraska. He began his family practice in Ottumwa in 1949.



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**Dr. Kathleen W. Wilson** has opened an office in Burlington to practice gastroenterology. Dr. Wilson received the M.D. degree from the U. of I. College of Medicine and had a five-year residency in internal medicine and gastroenterology at Mayo Clinic. . . . **Drs. Gerlad Paluska** and **Alan Anderson** recently began a surgical practice in Ottumwa. Both physicians received M.D. degrees at the U. of I. College of Medicine and completed surgical residencies at University Hospitals. Following his residency, Dr. Anderson served a two-year pediatric surgery fellowship at the University of Cincinnati, then returned to the staff at University Hospitals. Dr. Paluska formerly was associated with the Gilfillan Clinic in Bloomfield. Both are Fellows of the American College of Surgeons. Dr. Anderson is also a Fellow of the American Academy of Pediatrics. . . . **Dr. James A. Davison** recently joined the Wolfe Clinic in Marshalltown. Dr. Davison received the M.D. degree at the Mayo Medical School; interned at the University of Southern California and completed his residency in ophthalmology at the Mayo Clinic. . . . **Dr. Lucy M. Radicia** has been named president of the Pottawattamie-Mills County Medical Society. Dr. Radicia will complete the unexpired term of Dr. Lloyd Smith who died August 6.



**Dr. Walter M. Block**, newly appointed medical director of the Child Guidance Center at Mercy Hospital in Cedar Rapids, was keynote speaker at a recent seminar in Oklahoma City, Oklahoma, on "Brain Dysfunction and Learning Disabilities." The seminar was sponsored by the Oklahoma State Department of Education. . . .

**Dr. Rebecca Fritzsche** has joined the Iowa State University Student Health Service. Dr. Fritzsche received the M.D. degree at U. of I. College of Medicine; interned and completed her residency in internal medicine at the University of Wisconsin Hospital and Clinics, Madison Veterans Administration Hospital and St. Joseph's Hospital. . . . **Dr. William Rosenfeld**, Mason City, was guest speaker at a recent meeting of the Wright County Medical Society. Dr. Rosenfeld spoke on his 3-month tour in Thailand caring for Cambodian refugees under the Iowa Shares program. . . .

**Dr. Lee C. Chiu**, professor of radiology, U. of I. College of Medicine, was a visiting professor in Peking, People's Republic of China, in October. Dr. Chiu advised the Chinese medical community on the recent advances of computerized tomography. Three hospitals in Peking recently have acquired U. S. made CT equipment.

## DEATHS

**Dr. Ray J. Harrington**, 86, longtime Sioux City physician, died September 29 at a Sioux City hospital. Dr. Harrington received the M.D. degree at Rush Medical College; interned and served his residency at Allegheny General Hospital in Pittsburgh, Pa. He began his medical practice in Morningside in 1923. Dr. Harrington was a life member of the Iowa Medical Society.

**Dr. Ralph E. Dyson**, 73, former Des Moines pediatrician, died October 6 at a Phoenix, Arizona hospital. Dr. Dyson received the M.D. degree at the U. of I. College of Medicine and served his pediatric residency at the University of Minnesota. He was a member of the American Academy of Pediatrics; past secretary-treasurer of the Iowa Pediatric Society and past president of the Des Moines Pediatric Society.

Two brothers, both Iowa physicians, died in October. **Dr. Charles C. Christiansen**, 66, Grand Mound, died October 8 in DeWitt Community Hospital. **Dr. John E. Christiansen**, 67, Durant physician for 43 years, died October 18 at his home. Dr. Charles C. Christiansen received the M.D. degree and interned at the U. of I. College of Medicine. Following military service during World War II, he began his medical practice in Grand Mound in 1946, retiring in 1979. Dr. John E. Christiansen received the M.D. degree at U. of I. College of Medicine and interned at St. Luke's Hospital in Duluth, Minnesota. He began his medical practice in Durant in 1937.

**Dr. Kenneth C. Piercy**, 74, Ames, died at his home on October 14. Dr. Piercy received the M.D. degree at Baylor University College of Medicine. He began his medical practice in Ames in 1942. From 1963 until his retirement in 1977, Dr. Piercy was associated with the Student Health Department at Iowa State University.

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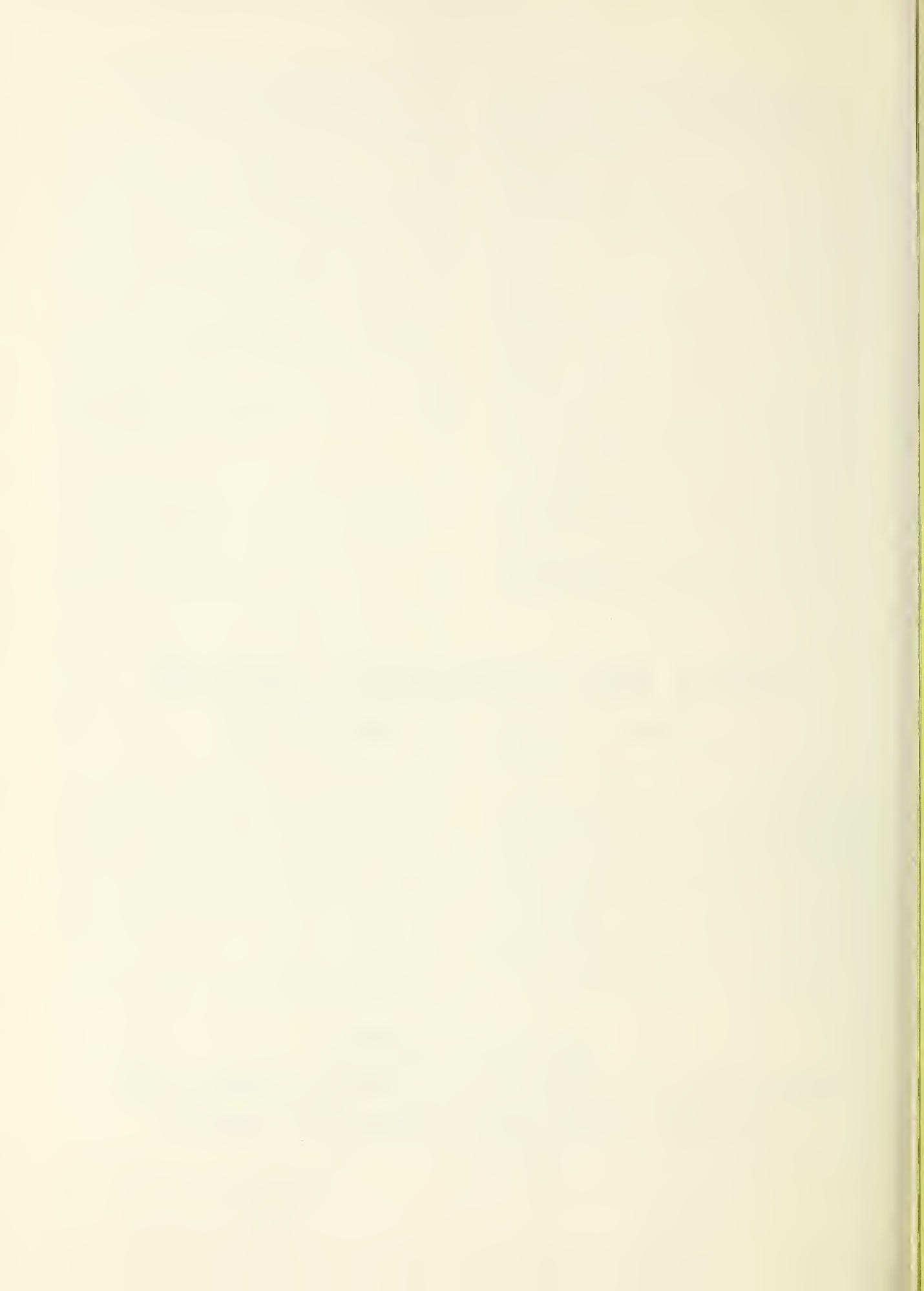
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# **IOWA MEDICAL SOCIETY INSURANCE SERVICES AVAILABLE TO MEMBER PHYSICIANS**

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On the following two pages is a summary of the insurance coverages which are available from the Iowa Medical Society. All member physicians are invited and encouraged to review this outline to see if and where any of these coverages may fill a void in or supplement an existing individual insurance program. This suggestion is directed particularly to those physicians who are new to membership in the Society.

The Committee on Member Services of the Iowa Medical Society is responsible for the periodic evaluation of these programs to determine their value and receptivity. It is the further duty of the committee to consider and recommend appropriate new coverages.

Any questions or comments regarding these programs may be directed to the administrator as shown or to the Headquarters of the Iowa Medical Society, 1001 Grand Avenue, West Des Moines, Iowa 50265 (Telephone—515-223-1401; In-WATS—1-800-422-3070).

TYPE	COVERAGE	SPECIAL FEATURES
1. PROFESSIONAL LIABILITY INSURANCE PACKAGE	Provides Basic Professional of \$100,000/\$300,000 or \$250,000/\$500,000 (depending on classification); Premises Liability; Catastrophic Liability From \$1 to \$5 Million.	Occurrence Form, Guarantee 3-Year Market Possible Expense and Loss Dividends, Active IMS Role in Loss Prevention & Control, Right to Insurability Hearing.
2. INCOME PROTECTION ACCIDENT AND SICKNESS DISABILITY	Optional Amounts Up to \$500 Weekly (\$2,166 Monthly) and Benefit Durations Up to Lifetime for Accident and to Age 65 for Sickness. Program Automatically Includes \$1,000 Accidental Death & Dismemberment, Waiver of Premium, a Rehabilitation Program and Loss of Use of Hand or Hands Benefit. Future Increase Option and Recovery Benefit are also available.	Benefits Begin First Day of Disability for Accident and Eighth Day for Sickness or First Day Hospital Confined for Sickness. Optional Plans Available With Benefits Beginning the 29th Day, 57th Day, 92nd Day or 183rd Day. Claims Paid Directly From Administrator Office. Special Renewal Features and Conversion Option Automatically Included.
3. OFFICE OVERHEAD DISABILITY COVERAGE	Available From \$200 Monthly to a New Maximum of \$3,000 Monthly as Reimbursement for Office Expenses (Rent, Employees Salaries, Utilities, etc.) Incurred During Insured's Disability.	Benefits Begin After Waiting Period of Either 14 Days or 30 Days With Benefits Payable Up to 24 Months. Premium Tax Deductible. Special Renewal Features and Conversion Option Automatically Included.
4. TERM LIFE INSURANCE (Bankers Life)	Available in Amounts From \$10,000 to \$100,000. Guaranteed Renewable and Convertible to Age 70. Special Plans Available for Members of IMS Auxiliary in Amounts From \$5,000 to \$25,000.	Individual Policies. Renewal Rate Guaranteed. Waiver of Premium. Double Indemnity. Full Conversion Privilege Any time. Dividends Reduce Premium.
5. TERM LIFE INSURANCE (American Mutual)	Provides up to an additional \$100,000 in low-cost term life insurance benefits. Policies fully convertible after they have been in force one year. Benefits reduce 20% every 5 years beginning at age 50. Plan is renewable to age 70.	Waiver of Premium. Full conversion privilege after policy has been in force one year. A new member of IMS under age 65 may apply for or unit of coverage with guaranteed issue if application is made within 90 days of membership.
6. MODIFIED PERMANENT LIFE INSURANCE COVERAGE	Available from a minimum of \$10,000 with no maximum limits. Premium discount ranging from 8 to 20% depending on entry age and policy amount. Policy renewable up to Lifetime.	Optional dependent coverage is available for members, spouse and children.  Modified underwriting allows the standard risk life insurance at standard rates. No medical limits allow the physician under age 55 to apply for up to \$150,000 coverage without medical exam. For those between 55 and 65, \$100,000 may be purchased without medical exam. The discount premium is a fully portable feature regardless of practice location. Allow physician professionally incorporated to purchase insurance through the corporation with portion of the premium tax deductible.
7. EXCESS MAJOR MEDICAL	Pays 100% of Eligible Expenses After \$10,000, \$15,000, \$20,000, \$25,000 or \$50,000 Deductible Is Satisfied. Once Deductible Is Satisfied Plan Pays Up to \$300,000 per Person.	10-Year Benefit Period. 36 Months in Which to Satisfy Deductible. Guaranteed Issue. Renewable for Lifetime.
8. HIGH LIMITS ACCIDENTAL DEATHS AND DISMEMBERMENT	Accidental Death, Dismemberment, Loss of Sight, Permanent and Total Disability Feature. Available From \$25,000 to \$150,000—Wife & Family Coverage Also Available.	24-Hour, World Wide Coverage. Aviation Coverage As Passenger. 365 Day Coverage. Renewable to Age 70. No Medical Underwriting.
9. HOSPITAL/MEDICAL	Two-option Coverage Available to Physicians, Their Families and Employees. Excellent Benefits to Cover Both Hospital and Medical Services.	365-Day Comprehensive Hospital. 365-Day Blue Shield UCR. Nervous/Mental, Drug Addiction, TB and Alcoholism. Major Medical Optional.
10. WORKERS' COMPENSATION	Provides Workers' Compensation Coverage as Required by State Law. Approved Rates Are in Effect. Program Meets Employer's Obligations for Occupational Injuries to Employees.	Is a Savings Plan in That Dividends Are Paid Based on Experience. 35% Return of Premium Has Occurred With Higher Percentage Possible. Safety Counsel Is Provided.



# IOWA MEDICAL SOCIETY MEMBERS

## ADMINISTRATORS

Aetna Life & Casualty  
611 Fifth Avenue  
Des Moines, Iowa 50309

The Prouty Company  
2600 72nd, Suite "O"  
Des Moines, Iowa 50322

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Des Moines, Iowa 50322

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Des Moines Iowa 50322

The Prouty Company  
2600 72nd, Suite "O"  
Des Moines, Iowa 50322

Blue Cross/Blue Shield  
Ruan Center  
Des Moines, Iowa 50309

Casualty Reciprocal Exchange  
Dodson Insurance Group  
P.O. Box 559  
Kansas City, Missouri 64141

## INSURANCE COMPANY

Aetna Life & Casualty  
Hartford, Connecticut

Commercial Insurance  
Company  
Newark, New Jersey

Commercial Insurance  
Company  
Newark New Jersey

Bankers Life Company  
Des Moines, Iowa

American Mutual Life  
Des Moines, Iowa

Security Connecticut Life  
Insurance Company  
Avon, Connecticut

Insurance Company of North  
America  
Philadelphia, Pennsylvania

Insurance Company of North  
America  
Philadelphia, Pennsylvania

Blue Cross/Blue Shield  
Ruan Center  
Des Moines, Iowa

Casualty Reciprocal Exchange  
Dodson Insurance Group  
P.O. Box 559  
Kansas City, Missouri 64141

## ELIGIBILITY AND HOW TO APPLY

All Members May Apply Through Local Aetna Agents, The Prouty Company or Des Moines/Omaha Offices of Aetna. Information Available From Des Moines Aetna—1-800-362-1809 or 515-244-5145.

New Members Eligible for Base Amount of Coverage Regardless of Medical History, if Application Is Made in 90 Days of Membership. All Insurable Members Eligible Anytime Prior to Age 56. Coverage Continues to Age 70 for Active Members. Special Plan Available After Age 70. Apply to The Prouty Company—1-515-278-5580 or Toll Free—Iowa) 1-800-532-1105.

Applicant Must Be in Active Practice, Under Age 60, and Member of IMS. Apply to The Prouty Company—1-515-278-5580 or Toll Free—Iowa) 1-800-532-1105.

Any Active Member Under the Age of 65 May Apply. Apply to The Prouty Company—1-515-278-5580 or Toll Free—Iowa) 1-800-532-1105.

Any active member under the age of 65 may apply. New members may apply for one unit of coverage if under 65 with guaranteed issue if done within 90 days of membership. Apply to The Prouty Company—1-515-278-5580 or Toll Free—Iowa) 1-800-532-1105.

Any member under the age of 80 may apply. Amount of coverage provided is at insured's option with minimum amount \$10,000. Apply to The Prouty Company—1-515-278-5580 or Toll Free—Iowa) 1-800-532-1105.

All Members, Their Families and Employees. Apply to The Prouty Company—1-515-278-5580 or Toll Free—Iowa) 1-800-532-1105.

Any Active Member Under the Age of 65, Spouse, and/or Family. Apply to The Prouty Company—1-515-278-5580 or Toll Free—Iowa) 1-800-532-1105.

All Members, Their Families and Employees. Apply to Blue Cross/Blue Shield.

Approved by the Iowa Medical Society for All Members. Apply to Casualty Reciprocal Exchange.

# Aetna has returned over \$1 million in dividends to Iowa physicians.

Since the inception of the Iowa Medical Society Liability Insurance Program three years ago, Aetna has returned over \$1 million to Iowa physicians.

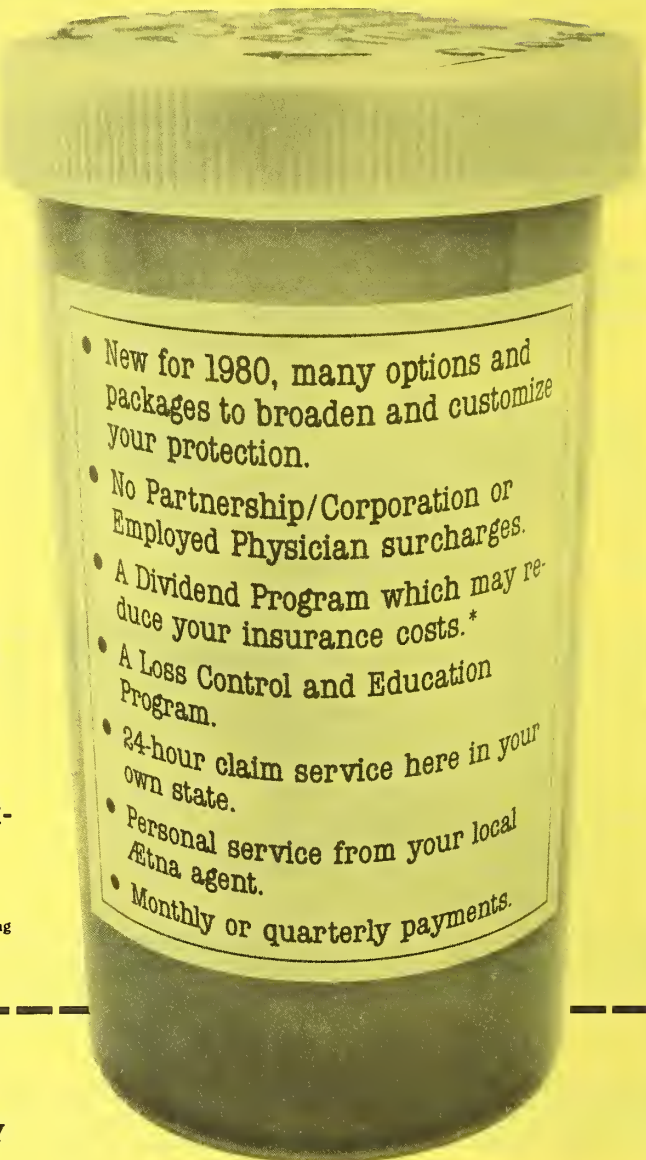
This year, physicians participating in the program will share in a half million dollar dividend.

Not only that, but coverages are up. (See label on right.)

Plus, physicians in their first or second year of private practice will receive substantial discounts on their professional liability premiums.

Clip the coupon and mail. Without obligation, we'll see that you get more information.

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## The Iowa Medical Society Professional Liability Insurance Program

I'd like to learn more about the IMS Total Liability Insurance Program. I understand this in no way obligates me.

Name or Group \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

My present insurance expires on: \_\_\_\_\_

Return to: David Heath, Supervisor  
Aetna Life & Casualty  
611 Fifth Avenue  
Des Moines, Iowa 50309



The Standard Fire Insurance Company



# WHAT'S YOUR STATE OF WELL-BEING?

*What's most important to you?*

*Ask 10 people this question! Many of the 10 will probably say their health.*

*Ask the same 10 persons what they are doing about their health! Probably several will need to admit not much.*

*Life has no absolute guarantees when it comes to health and longevity. But, for those who think it important enough to adopt good health habits (when it comes to exercise, sleep, nutrition, weight, alcohol and tobacco consumption, etc.), the odds are decidedly better.*

*Remember three of four deaths in this country stem from heart disease, cancer and stroke. And the incidence of these is influenced by the way we live. Eating too much. Smoking. Failing to get enough exercise.*

*What you do minute-by-minute, day-by-day can have an impact on your lifespan. If you are a cigarette smoking, overweight, easily-stressed person, that's obviously not good. If, on the other hand, you are physically active, well-rested and adhere to a well-balanced diet, your outlook is significantly brighter.*

*One's STATE OF WELL-BEING should be assessed from time to time. You can do it independently. Or you can do it with an assist. We offer you such an assist here. Answer the questions on the inside pages. Enter the letter response (A, B, C, D, E, F) that best fits you. Then total the point values from the key on the back page. Your score will give you an impression of your STATE OF WELL-BEING. Please turn inside!*

30 TO 40	.....	EXCELLENT
41 TO 55	.....	GOOD
56 TO 70	.....	NOT SO GOOD
71 PLUS	.....	NEEDS DEFINITE ATTENTION

**THIS HEALTH EDUCATION TOOL HAS BEEN PREPARED BY THE IOWA MEDICAL SOCIETY AND THE IOWA STATE DEPARTMENT OF HEALTH. IT IS MEANT TO GIVE THOSE WHO COMPLETE IT AN INDICATION OF THEIR STATE OF WELL-BEING. IT IS NOT MEANT TO PROVIDE AN ABSOLUTE MEASURE OF RISK, DIAGNOSE ILLNESS OR REPLACE HEALTH CARE.**

# WHAT IS YOUR STATE OF WELL BEING?

*It's always good to take stock of one's self. Here's a Well-Being Assessment to help you do that. It'll just take a few minutes. First, circle your most accurate response to each of the 30 inquiries. Then look on the back page for the point value (A=1, B=3, etc.) given each letter. Enter that value for each inquiry in the space provided on the right margin. Total your points. Take a look finally at the categories (Excellent, Good, Not So Good, Needs Definite Attention) either on the front or back pages. See where you fall. Remember, this is an informal yardstick to measure personal well-being. It is intended to give impressions or signals; it is not a definitive or specific indicator of your health. If you are moved to commit yourself to an improved lifestyle, turn to the back page and enter into a contract with yourself to work on areas where you may have a personal weakness.*

## GENERAL LIFESTYLE

1. Do you practice good personal hygiene (daily care of teeth, routine bathing, sanitary living conditions)?

\_\_\_\_\_ (A) Yes

\_\_\_\_\_ (B) No

\_\_\_\_\_

2. Do you get enough satisfying sleep (probably 7-8 hours)?

\_\_\_\_\_ (A) Yes

\_\_\_\_\_ (B) No

\_\_\_\_\_

3. Do you have the necessary immunizations/boosters (tetanus, polio)?

\_\_\_\_\_ (A) Yes

\_\_\_\_\_ (B) No or Don't Know

\_\_\_\_\_

4. Do you have a definite, established relationship with a family or general physician?

\_\_\_\_\_ (A) Yes

\_\_\_\_\_ (B) No

\_\_\_\_\_

5. Do you feel stressed or uncomfortably anxious?

\_\_\_\_\_ (A) Once a Week

\_\_\_\_\_ (B) 3-6 Times Per Week

\_\_\_\_\_ (C) Daily

\_\_\_\_\_ (D) Many Times Each Day

\_\_\_\_\_

6. Are you able to relieve your anxiety?

\_\_\_\_\_ (A) Always

\_\_\_\_\_ (B) Most of the Time

\_\_\_\_\_ (C) Seldom

\_\_\_\_\_ (D) Never

\_\_\_\_\_

7. Do you experience periods of depression?

\_\_\_\_\_ (A) Seldom

\_\_\_\_\_ (B) Occasionally

\_\_\_\_\_ (C) Frequently

\_\_\_\_\_

8. Have you had a vacation of at least one week in the past 12 months?

\_\_\_\_\_ (A) Yes

\_\_\_\_\_ (B) No

## HEREDITY/HYPERTENSION

9. Do you have a family history (parents, brothers, sisters) of heart disease or stroke?

\_\_\_\_\_ (A) No

\_\_\_\_\_ (B) One relative over 60 (disease or death)

\_\_\_\_\_ (C) Two relatives over 60 (disease or death)

\_\_\_\_\_ (D) One relative under 60 died of heart/stroke

\_\_\_\_\_ (E) Two relatives under 60 died of heart/stroke

\_\_\_\_\_

10. Do you have a family history of diabetes (blood relative)?

\_\_\_\_\_ (A) No

\_\_\_\_\_ (B) Yes

\_\_\_\_\_

11. Your blood pressure is:

\_\_\_\_\_ (A) Normal

\_\_\_\_\_ (B) High, but controlled

\_\_\_\_\_ (C) Don't know

\_\_\_\_\_ (D) High, uncontrolled

\_\_\_\_\_

**TOTAL**

\_\_\_\_\_



## EXERCISE / WEIGHT

12. Your level of exercise is best described by which of the following:

- ☐ (A) Vigorous (very active)  
☐ (B) High Moderate (planned exercise 4 times per week/walking - 1½ miles per day)  
☐ (C) Low Moderate (limited exercise/walking - ½ to 1½ miles per day)  
☐ (D) Sedentary (not much exercise/walking - less than ½ mile per day)

13. Your weight is:

- ☐ (A) Either reasonably under that specified for your height and body frame or no more than 5 pounds plus.  
☐ (B) 6-20 pounds overweight  
☐ (C) 21-35 pounds overweight  
☐ (D) 36-50 pounds overweight  
☐ (E) 50-plus pounds overweight

## NUTRITION

14. Do you normally eat three meals per day and limit between meal intake?

- ☐ (A) Yes ☐ (B) No

15. Do you eat raw fruits and vegetables at least twice a day?

- ☐ (A) Yes ☐ (B) No

16. In what way do you use salt?

- ☐ (A) Never ☐ (B) Moderately ☐ (C) Heavily

17. Do you choose foods prepared without oils and cooked by methods other than frying?

- ☐ (A) Regularly ☐ (B) Occasionally ☐ (C) Seldom

18. Does your diet include items lower in fat content (fish, fowl, cheese, etc.)?

- ☐ (A) Consistently ☐ (B) Occasionally ☐ (C) Seldom

## TOBACCO, ALCOHOL, OTHER SUBSTANCES

19. Do you smoke (pipe, cigars and/or cigarettes)?

- ☐ (A) No ☐ (B) Yes

20. How many cigarettes do you smoke per day?

- ☐ (A) 0 ☐ (B) 1-10 ☐ (C) 11-20  
☐ (D) 21-30 ☐ (E) 31-40 ☐ (F) 40-plus

21. What is the average number of 12 oz. bottles of beer and/or 5 oz. glasses of wine you consume per week?

- ☐ (A) 0-7 ☐ (B) 8-15 ☐ (C) 16-plus

22. What is the total number of alcoholic drinks you consume per week, including hard liquor?

- ☐ (A) 0-7 ☐ (B) 8-15 ☐ (C) 16-plus

23. Do you consume alcohol together with certain drugs (tranquilizers, barbiturates, antihistamines or illegal drugs)?

- ☐ (A) No ☐ (B) Yes

24. Do you take medicine for pain excessively or improperly?

- ☐ (A) No ☐ (B) Yes

25. Do you ever drive under the influence of alcohol or drugs that may affect your ability and judgment?

- ☐ (A) No ☐ (B) Yes

## SAFETY

26. Approximate number of miles per year you drive or are a passenger in a car?

- ☐ (A) 0-10,000 ☐ (B) 10,000-25,000 ☐ (C) 25,000-plus

27. Do you wear a seatbelt?

- ☐ (A) Always ☐ (B) Frequently  
☐ (C) Occasionally ☐ (D) Never

28. Do you drive a motorcycle, moped or snowmobile?

- ☐ (A) No ☐ (B) Yes

29. Do you use clothing/equipment provided for your safety at work and/or recreation (helmets, lifejackets, etc.)?

- ☐ (A) Yes ☐ (B) No

30. Are you familiar with first aid procedures?

- ☐ (A) Yes ☐ (B) No

TOTAL

## SCORING EXPLANATION

Give yourself the correct number of points on the basis of the key shown below. Enter the amount for each question in the spaces provided on the inside pages. Then total to see what is your **STATE OF WELL BEING**.

ANSWER		POINTS
A	SCORE	1
B	SCORE	3
C	SCORE	5
D	SCORE	7
E	SCORE	9
F	SCORE	11

## WHAT'S YOUR STATE OF WELL BEING?

30 TO 40	EXCELLENT
41 TO 55	GOOD
56 TO 70	NOT SO GOOD
71 PLUS	NEEDS DEFINITE ATTENTION

## CHANGE IS UP TO YOU!

*You can improve your STATE OF WELL BEING if you are serious about it. It may require some changes in the way you live. The effort can be challenging, interesting, rewarding, even fun. It's all really up to you. Why not contract with yourself on the form shown below and seriously address any areas of health risk.*

I, \_\_\_\_\_ will undertake activity in the areas marked below to reduce my health risks and improve the way I feel and the way I look.

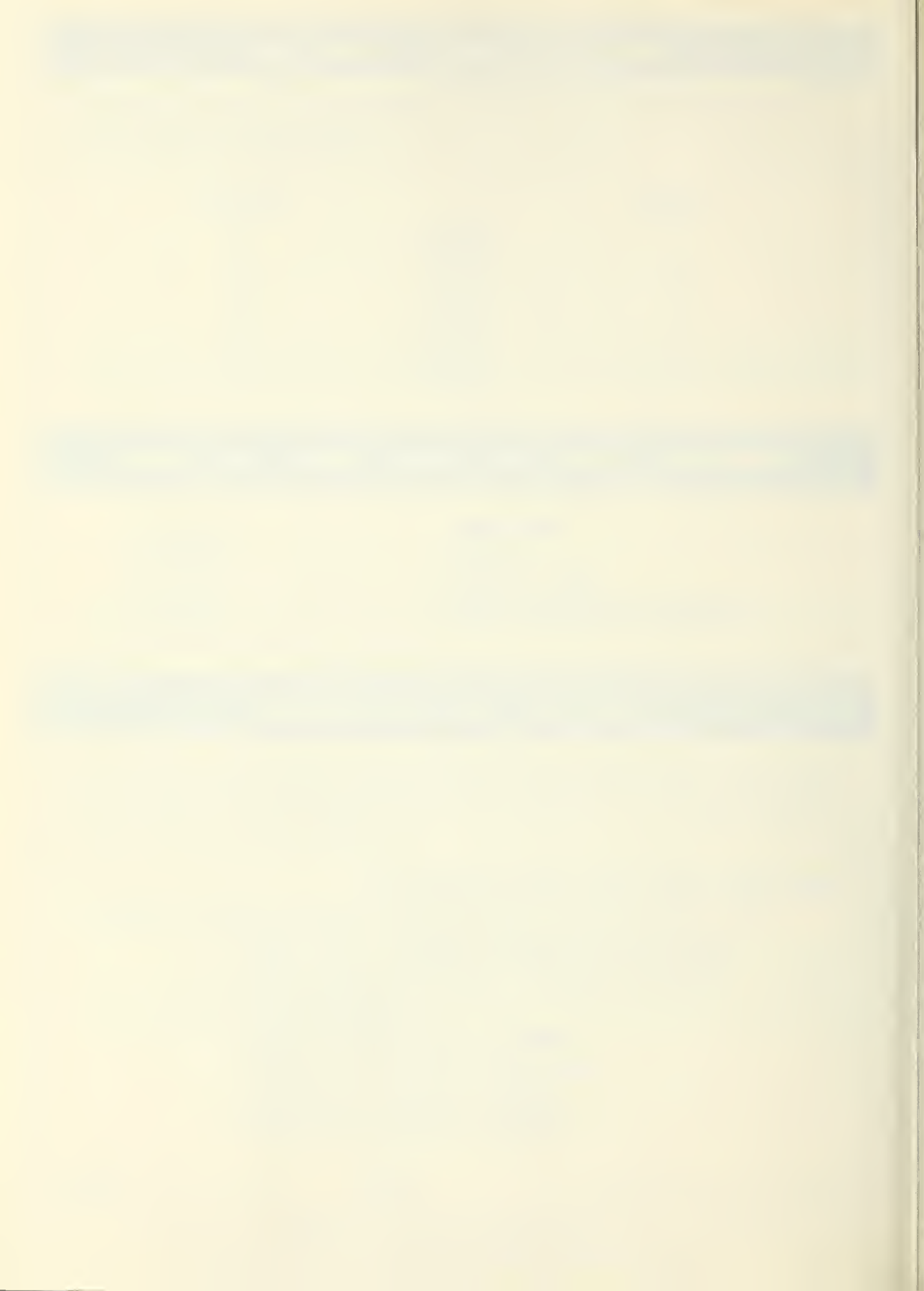
- \_\_\_\_\_ CARRY OUT A WEIGHT REDUCTION PROGRAM
- \_\_\_\_\_ CARRY OUT A PHYSICAL FITNESS PROGRAM
- \_\_\_\_\_ STOP SMOKING
- \_\_\_\_\_ LEARN TO COPE WITH STRESS
- \_\_\_\_\_ REDUCE MY RISK OF ACCIDENTS
- \_\_\_\_\_ IMPROVE MY DIETARY HABITS
- \_\_\_\_\_ REDUCE MY USE OF ALCOHOL

Date \_\_\_\_\_

Signed \_\_\_\_\_











# V-Cillin K<sup>®</sup>

penicillin V potassium

is the most  
widely prescribed  
brand of oral penicillin



Tablets  
125, 250, and 500 mg\*  
Oral Solution  
125 and 250 mg\*/5 ml

## V-Cillin K<sup>®</sup> penicillin V potassium

**Description:** V-Cillin K is the potassium salt of penicillin V. This chemically improved form combines acid stability with immediate solubility and rapid absorption.

**Indications:** For the treatment of mild to moderately severe pneumococcal respiratory tract infections and mild staphylococcal skin and soft-tissue infections that are sensitive to penicillin G. See the package literature for other indications.

**Contraindication:** Previous hypersensitivity to penicillin.

**Warnings:** Serious, occasionally fatal, anaphylactoid reactions have been reported. Some patients with penicillin hypersensitivity have had severe reactions to a cephalosporin; inquire about penicillin, cephalosporin, or other allergies

before treatment. If an allergic reaction occurs, discontinue the drug and treat with the usual agents (e.g., epinephrine or other pressor amines, antihistamines, or corticosteroids).

**Precautions:** Use with caution in individuals with histories of significant allergies and/or asthma. Do not rely on oral administration in patients with severe illness, nausea, vomiting, gastric dilatation, cardiospasm, or intestinal hypermotility. Occasional patients will not absorb therapeutic amounts given orally. In streptococcal infections, treat until the organism is eliminated (minimum of ten days). With prolonged use, nonsusceptible organisms, including fungi, may overgrow; treat superinfection appropriately.

**Adverse Reactions:** Hypersensitivity, including fatal anaphylaxis. Nausea, vomiting, epigastric distress, diarrhea, and black, hairy tongue. Skin eruptions, urticaria, reactions resembling serum sickness (including chills, edema, arthralgia, prostration), laryngeal edema, fever, and eosinophilia. Infrequent hemolytic anemia, leukopenia, thrombocytopenia, neuropathy, and nephropathy, usually with high doses of parenteral penicillin.

(102175)

\*Equivalent to penicillin V.

Additional information available to the profession on request.



900416

Eli Lilly and Company  
Indianapolis, Indiana 46206



# THINGS YOU SHOULD KNOW

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**LICENSURE/CME** Iowa licensed physicians will receive applications for 1980/81 license renewal in April. Arriving with this application for the first time will be a form for reporting continuing education activity. This form will enable the licensee to report CME taken in calendar year 1979 -- as is required for licensure renewal. A current CME certificate from any of several medical organizations will also serve to meet the education requirements.

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**LEGISLATION** There's a heavier than expected volume of legislation (over 500 bills introduced) before the Iowa General Assembly as the estimated midpoint of the 1980 session passes this month. The IMS is monitoring some 30 health-related proposals. Two bills receiving Society support have to do with funding: (1) a supplemental asking (\$21,000/FY79-80 and \$125,143/FY80-81) for the Board of Medical Examiners; and (2) a request for about \$80,000 to fund the office of state medical examiner. Odds appear to be against passage of either measure. A bill concerned with physician dispensing, packaging and labeling of drugs is receiving priority attention from the IMS; the Society has been supportive of placing appropriate requirements under the Board of Medical Examiners -- but not under the Board of Pharmacy Examiners.

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**1980 HOUSE SESSION** The second main Society event (just after the April Scientific Session) in the coming weeks will be the 1980 Annual Meeting of the IMS House of Delegates. This policy-making session will be May 3/4 at the Hilton Inn in Des Moines. There are 218 House seats to be filled by physician delegates representing their county medical societies.

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**NOMINATING COMMITTEE** The 1980 Nominating Committee will meet Sunday, April 13 at IMS Headquarters. Representatives to the Nominating Committee have been picked at the 12 district caucuses. They will come together in April to assemble a slate of candidates to be considered by the House of Delegates. Any potential nominees should be made known to your district representative to the Nominating Committee.

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**CHIROPRACTIC SUIT** Defendants, including the IMS, filed motions in February in response to the multi-million dollar antitrust suit brought by the Health Equalization Committee of the Iowa Chiropractic Society.

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**NURSING HOME SURVEY** A 3-page survey to assess Iowa physician attitudes on medical care in nursing homes was sent in February to family and general practice members of the IMS. The survey is a project of the Society's Committee on Medical Practice in Health Facilities and Homes and is undertaken pursuant to actions of the House of Delegates.

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**NEW INSURANCE PLAN** A new IMS-sponsored permanent life insurance program was highlighted in a February letter to member physicians from Society President Paul Seebom, M. D. The coverage has special underwriting provisions for rated physicians -- as well as other attractive features. More info is available from the IMS or The Prouty Company (the Society's insurance administrator).

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## MEDICAL MEETINGS

*The following postgraduate courses and conferences will occur at U. of I. College of Medicine in Iowa City*

- |             |   |
|-------------|---|
| Mar. 27     | Emergency Procedures for Physicians   |
| Mar. 27-28  | Conference on Perinatal Medicine, Des Moines  |
| Mar. 30     | Radiation Therapy Seminar   |
| April 2     | Ophthalmology Clinical Conference   |
| April 4-6   | Advanced Cardiac Life Support Provider/ Instruction, Des Moines   |
| April 10    | Emergency Procedures for Physicians (Animal Lab)  |
| April 16-18 | Iowa Medical Society Scientific Meeting   |
| April 24    | Critical Decisions in Trauma, Mason City  |
| May 5-8     | Cardiology Today  |
| May 15-17   | Iowa Eye Association  |
| <hr/>       |   |
| Mar. 27-29  | Current Concepts in Cardiopulmonary Disease — Health Sciences Unit A, University of Minnesota, Minneapolis — Sponsor: University of Minnesota       |
| Mar. 28     | Chronic Abdominal Pain in Children — St. Joseph Mercy Hospital, Mason City — Sponsors: St. Joseph Mercy Hospital and U. of I. College of Medicine   |
| March 28    | Infant Death Syndrome Conference — Jester Auditorium, Iowa Methodist Medical Center, Des Moines — Sponsor: Iowa Methodist Medical Center and others |
| Mar. 28-29  | Sexual Attitude Reassessment Seminar — Research East Building, University of Minnesota, Minneapolis — Sponsor: University of Minnesota              |
| Apr. 12-13  | Medical and Dental Hypnosis — Ramada Inn (Airport), Omaha, Nebraska — Sponsor: Nebraska Society of Clinical Hypnosis                                |
| April 17    | Blood Transfusion: Its Hazards and Liabilities — Moline Public Hospital, Moline, Illinois — Sponsor: Mississippi Valley Regional Blood Center       |
| April 17-18 | 33rd National Conference on Rural Health — Sheraton Boston, Massachusetts — Sponsor: American Medical Association                                   |
| April 24-25 | 24th Annual Pediatric Conference — Iowa Methodist Medical Center, Des Moines, Iowa — Sponsor: Iowa Methodist Medical Center                         |
| April 27    | Future of PSRO in the 80's — Drake Hotel, Oakbrook, Illinois — Sponsor: American College of Utilization Review Physicians, Illinois Chapter         |

# Quinamm™

AVAILABLE ONLY ON PRESCRIPTION

### Brief Summary

**INDICATIONS:** For the prevention and treatment of nocturnal recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis, and static foot deformities.

**CONTRAINDICATIONS:** Because of the quinine content, Quinamm is contraindicated in women of childbearing potential, in pregnancy, in patients with known quinine sensitivity, and in patients with glucose-6-phosphate dehydrogenase deficiency. Hemolysis (with the potential for hemolytic anemia) has been associated with a G-6-PD deficiency in patients taking quinine.

**PRECAUTIONS:** Thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients. Recovery will follow withdrawal of the medication.

Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

**ADVERSE REACTIONS:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. If ringing in the ears, deafness, skin rash, or visual disturbances occur, the drug should be discontinued.

### DOSAGE AND ADMINISTRATION:

1 tablet upon retiring. When necessary, 1 additional tablet may be taken following the evening meal.

Product Information as of September, 1977

U.S. Patent 2,985,558

## Merrell

MERRELL-NATIONAL LABORATORIES Inc.  
Cayey, Puerto Rico 00633

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MERRELL-NATIONAL LABORATORIES  
Division of Richardson-Merrell Inc.  
Cincinnati, Ohio 45215, U.S.A.

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# THINGS YOU SHOULD KNOW

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**1980 HOUSE OF DELEGATES** May 3/4 is the time for the 1980 session of the IMS House of Delegates. County societies are urged to have their full quota of member delegates in place at the Hilton Inn in Des Moines. The 2-day policy-making event is open to any interested member physician.

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**FIVE RESOLUTIONS** Petitions for consideration by the 1980 IMS House of Delegates had reached 5 by the TYSK deadline. Additional resolutions are expected. Topics include the state medical examiner (support for), reimbursement for hospital lab and x-ray from standing orders, release of info for malpractice litigation, etc. Resolutions may be submitted up to the convening of the House; however, earlier receipt helps facilitate the administration.

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**DELEGATES HANDBOOK** Resolutions, reports, etc., are contained in the 1980 Handbook for the House of Delegates mailed in late March to those physicians who'll be representing their colleagues at the IMS House session in May. The Handbook contains committee and council highlights for the IMS year.

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**CHIROPRACTIC MATTER** Oral arguments on defendant petitions are to be presented in Des Moines April 22 in the lawsuit brought by the Health Equalization Committee of the Iowa Chiropractic Society against the IMS and several other organizations and individuals. The IMS will be represented.

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**NOMINATING COMMITTEE** The 1980 Nominating Committee will confer Sunday, April 13 at IMS Headquarters. Representatives from each of the councilor districts serve on the NC to develop a slate of candidates for consideration by the House of Delegates in May.

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**REDISTRICTING** Options on IMS revamping of its councilor districts will be presented by the Society's Executive Council to the 1980 House of Delegates. The 1979 House approved a redistricting plan that would provide 2 councilors in each congressional district. Additional factors are covered in the alternatives coming from the Executive Council.

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**DISPENSING MATTER** As this is prepared, a fluid legislative situation exists covering physician dispensing. IMS effort is being made to find an acceptable definition to allow the practice to be continued by dispensing physicians. The issue has arisen as a consequence of an opinion of the Iowa Attorney General that such tasks may not be delegated. Clarifying legislation is being sought to preserve the custom of physician delegation of certain dispensing tasks to authorized agents.

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**AMPHETAMINES** State legislation to impose statutory restrictions on amphetamine prescribing by Iowa physicians appears dead for this session. The IMS has opposed such legislation. The position now prevailing among many legislators is akin to that of the IMS, namely, the matter is one for attention by the Board of Medical Examiners.

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**CME FORM COMING** April is the month Iowa physicians are scheduled to receive their first CME reporting form from the Board of Medical Examiners. Two recent IMS UPDATES have carried reduced versions of the form to acquaint IMS members with it.

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# Speaking of . . .



Blue Cross  
Blue Shield  
of Iowa  
Des Moines

**DIAGNOSTIC  
X-RAY  
LABORATORY**

DOE JOHN J  
123 45 6789  
DXL N640

## ✓ **Serving 500,000 Iowans**

All Blue Cross and Blue Shield subscriber groups with 2-25 members now join large groups in receiving diagnostic, x-ray and laboratory (DXL) coverage. More and more groups are adding the benefit every day.

## ✓ **Lowering Costs**

DXL makes payment for medically necessary diagnostic services on an outpatient basis, thus reducing costs to the patient, and continues speedy reimbursement for physicians and hospitals.



# THINGS YOU SHOULD KNOW

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## APTP PROGRAM

The new IMS Assistance Program for Troubled Physicians (APTP) was explained to the 1980 House of Delegates earlier this month. A folder summarizing the program has been prepared and will be sent soon to all Society members. The APTP is a voluntary, non-coercive program to help physicians with conditions or problems that are potentially threatening to professional competence.

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## DISPENSING ISSUE

As this is prepared, efforts continue to revamp procedures under which dispensing physicians have operated historically. In the mill is an amendment to S.F. 2070 to continue existing physician dispensing practices -- putting in abeyance the 1979 ruling of the Attorney General -- pending the report of a proposed interim study committee to be appointed by the legislative council. If the amendment fails and no legislative action is taken to clarify the AG opinion, the IMS must decide about further steps to regain the ability for physicians to dispense and assign certain associated tasks to authorized agents.

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## CHIROPRACTIC

Oral arguments were presented April 22 in district court by defendants in the antitrust lawsuit brought by the Health Equalization Committee of the Iowa Chiropractic Society. A contention of the defense is that the suit lacks standing because of the filing process. A court ruling on this question is now pending.

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## EMPLOYMENT MATTER

On April 16 the Iowa Administrative Rules Review Committee objected to a rule proposed by the Board of Pharmacy Examiners to forbid employment of pharmacists by physicians. The IMS has opposed this rule. Indications are the BOPE may bid for approval again next year.

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## NO MORE MONEY

Efforts to obtain supplemental funds for the State Board of Medical Examiners will not be successful with budget tightening activity dominating the closing days of the legislative session.

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## MEDICAID

Administration of the Iowa Medicaid Program will transfer July 1 to the Systems Development Corporation of McLean, Virginia. The lower bid of SDC was accepted by the Department of Social Services. Blue Cross/Blue Shield has had the job since the program began.

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## MEDICAL COSTS

Physician response nationally to voluntary fee restraint has been good. In 1978 the all-items category of the Consumer Price Index rose 9% and physicians' fees rose 8.1%. In 1979 the CPI increased 13.3% while physicians' fees were rising 9.4%. The VE program continues nationally and in Iowa.

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## FOUNDATION LOANS

At its April 15 annual meeting, the Board of Directors of the Iowa Medical Society Foundation/Scanlon Foundation authorized the loaning of between \$60,000 and \$70,000 to Iowans attending medical school in the 1980-81 academic year. This sum is slightly greater than last year.

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WE'VE HELPED IMS PHYSICIANS WITH INSURANCE NEEDS SINCE 1955

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# THE PROUTY COMPANY

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WE HAVE MANY SPECIAL PLANS TO PROTECT YOU AND YOUR FAMILY

---

There's a special open enrollment between now and June 1 for two IMS programs — both with significant improvements:

- **NEW IMPROVED DISABILITY INCOME PLAN**

Benefits are increased to \$500 per week with a maximum of \$2,166 a month. There's also an additional insurance benefit . . . a new optional recovery benefit rider . . . new reduced step-rated waiting period rates. Guaranteed issue to all uninsureds under 45 if application is made during the open enrollment period.

- **OVERHEAD EXPENSE INSURANCE**

Monthly benefits have been increased to \$3,000. The program has renewal guarantee features with coverage intended to keep your office open if you are disabled. This extension of personal disability insurance has a tax deductible premium.

These additional benefits are important inflation fighters. For additional information, please call 243-5255 in Des Moines or 1/800-535-1105 from outside.

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# THINGS YOU SHOULD KNOW

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## RADIATION RULES

State regulations on the ownership and use of radiation equipment became effective July 1. The State Department of Health recently surveyed health care providers to determine who has such equipment. Those who do will receive the new regulations, plus an application and instructions. An August 30 deadline is set for the return of these applications by physicians and hospitals. A cost is associated with the equipment registration; \$35 for an x-ray unit with one tube, \$15 for each additional tube, to a \$250 maximum; a \$100 fee applies to any radium use. This x-ray equipment will be open to state inspection after July 1. Questions may be directed to the SDH Radiological Health Division at 515/281-4298.

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## CME APPROVAL

The Burlington Medical Center and St. Joseph Mercy Hospital, Mason City, have received IMS accreditation for their continuing medical education programs. This brings to 9 the number of Iowa institutions and organizations now holding CME accreditation; included is the U. of I., which is approved at the national level.

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## NEW PLAN IN USE

Consistent with IMS policy in support of deductibles and co-payment, Blue Cross/Blue Shield has initiated a new comprehensive medical plan with Banks of Iowa (12 banks/1,000 members) with these elements. A deductible (\$100 for single and \$300 for family) will be in effect each year. A 90/10 coinsurance provision exists to a point (\$1000 for a single and \$2000 for family) where major medical coverage will pay 100%. Various additional features are in the package.

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## MEDICAID QUERIES

Any questions on the filing of Medicaid claims under the new program administrator (System Development Corporation) may be telephoned the Des Moines SDC office; the numbers are (515) 265-7717 or (800) 372-6045.

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## REVIEW STATE PLAN

A unique public review of the preliminary 1981-86 State Health Plan will occur July 24, 29 and 31. This document is compiled by the State Health Plan and Development Agency from materials prepared by the health systems agencies. A public review is required. And it will take place on the above dates via telenetwork with the state's area schools hooked into a 15-way conversation. Time is 8 p.m. Member physicians are encouraged to attend one of the hearings. Copies of the SHP are available through the IMS.

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## STILL AWAITED

As this is prepared, a decision of the judge is still awaited on the petition of the IMS and others to dismiss for lack of standing the antitrust suit brought by the Health Equalization Committee of the Iowa Chiropractic Society.

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## MCE STUDIES

The Iowa Foundation for Medical Care ranks among the top 10 Professional Standards Review Organizations in number of medical care evaluations (MCE) performed. The IFMC conducted 306 in 1978. An MCE summary on IPPB was published recently in the JOURNAL; another on tetracycline will appear soon.

---

## \$355,927 GRANT

A 3-year \$355,927 grant from the Robert Wood Johnson Foundation will finance an Iowa "Rural Medical Service Development Program" under the aegis of the U. of I. College of Medicine. Tied closely with the family practice residency network, the program will permit development of 5 new rural medical practices, plus other activity.

---



# An added complication... in the treatment of bacterial bronchitis\*



**Brief Summary**  
Consult the package literature for prescribing information.

**Indications and Usage:** Ceclor® (cefactor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

*Lower respiratory infections*, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

**Contraindication:** Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

**Precautions:** If an allergic reaction to cefactor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefactor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

**Usage in Pregnancy:** Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

**Usage in Infancy:** Safety of this product for use in infants less than one month of age has not been established.

**Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis\*—are sensitive to treatment with Ceclor.<sup>1-6</sup>**

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.<sup>7</sup>

# Ceclor®

## cefactor

Pulvules®, 250 and 500 mg

**Adverse Reactions:** In clinical studies in 1493 patients, adverse effects considered related to cefactor therapy were uncommon and are listed below.

*Gastrointestinal* symptoms occurred in about 2.5 percent of patients and included diarrhea (1 in 70) and nausea and vomiting (1 in 90).

*Hypersensitivity* reactions were reported in about 1.5 percent of patients and included morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occurred in less than 1 in 200 patients.

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory tests results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[070379R]

\*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

**Note:** Ceclor® (cefactor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

#### References

1. Antimicrob. Agents Chemother., 8:91, 1975.
2. Antimicrob. Agents Chemother., 11:470, 1977.
3. Antimicrob. Agents Chemother., 13:584, 1978.
4. Antimicrob. Agents Chemother., 12:490, 1977.
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II, 880. Washington, D.C. American Society for Microbiology, 1978.
6. Antimicrob. Agents Chemother., 13:861, 1978.
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285. Eli Lilly Industries, Inc. Carolina, Puerto Rico 00630



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# THINGS YOU SHOULD KNOW

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## LEADERSHIP CONFERENCE

Key medical topics of the day will be examined Thursday, October 23, at the 1980 Iowa Medical Society Fall Leadership Conference. The IMS briefing is primarily for county medical society officers, but is open to any interested member physician. B. J. Anderson, AMA assistant general counsel, will open the program with an update on medicine's litigatory forays. Additional agenda topics include physician's assistants, dispensing physicians, HMO's, hospital staff/board relations, etc. More conference info is available from IMS headquarters; call 1/800/422-3070.

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## AMPHETAMINES HEARING

Set for September 10 is a public hearing on a proposed rule of the Board of Medical Examiners to impose disciplinary action on a physician dispensing or prescribing amphetamines in the treatment of obesity. Corollary to this is the June comment from the Board of Pharmaceutical Examiners that a sharp reduction appears to have occurred in the number of requests of pharmacists to fill prescriptions for amphetamines.

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## MEMBERSHIP DIRECTORY

The 1980-81 Iowa Medical Society Membership Directory is scheduled for distribution in October. The reference book contains listings of member physicians (both alphabetical and geographical) plus additional general information. One new section is devoted to emergency medical information. In addition to IMS members, copies of the directory are sent to Iowa hospitals, libraries, chambers of commerce, etc.

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## DISPENSING ISSUE

In early September an interim study committee of the Iowa General Assembly will meet to "make a study of prevailing prescription drug dispensing practices, the laws governing those practices..." A report must go to the GA not later than January 12, 1981. The IMS Committee on Interprofessional Activities conferred on this subject August 20. The IMS is surveying those approximately 300 Iowa physicians who dispense drugs to obtain first-hand information to aid in ensuing discussions with legislators and representatives of the Iowa Pharmacists Association.

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## PATIENT BOOKLET

Available from the IMS is a folder prepared by the American Medical Association which contains info on how to prepare a patient information booklet. The folder advises on subjects to include, e.g., appointments, hours, telephone calls, fees, etc. Contact the IMS for this folder.

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## RULES OBJECTION

The IMS has filed a letter objecting to rules proposed by the Iowa Bureau of Labor. The concern of the Society is over language in these rules relating to medical records. The IMS communication indicated Item 7 of ARC 1154 "should not be adopted until provisions protecting the physicians' records, the physician-patient relationship, and the employees' right to privacy have been protected adequately." Review of these proposed rules will continue into September.

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## INPUT ON STATE PLAN

In August the IMS filed brief comments on the draft 1981-86 State Health Plan for Iowa. The Society suggested the SHP expresses ambitions which are often general and sometimes ambiguous. The IMS urges physician counsel in implementing specific provisions.

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As long-time insurance administrators and counselors for the Iowa Medical Society, it has been a privilege to furnish assistance to Iowa physicians on insurance and other financial matters.

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- **ACCIDENTAL DEATH/DISEMBLEMENT**
- **IMS PROFESSIONAL LIABILITY**
- **SPECIAL MODIFIED PERMANENT LIFE PLAN**
- **FULL INSURANCE AND FINANCIAL SERVICES**

We welcome the opportunity to serve you as a member of the Iowa Medical Society. Requests for information by phone or mail will receive prompt attention.

**WM. R. PROUTY • JOHN A. RENO • BERNIE LOWE, JR., CL.U. • HOWARD HOGAN, CL.U.**

## **THE PROUTY COMPANY**

**INSURANCE ADMINISTRATORS AND COUNSELORS**

**2600 72nd Street, Suite 0 — Des Moines, Iowa 50322  
Telephone 515/278-5580 or Toll Free 1/800-532-1105**



# THINGS YOU SHOULD KNOW

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## IMS FALL CONFERENCE

B. J. Anderson, J.D., AMA assistant general counsel, will be a headline speaker at the October 23 IMS Fall Conference. The session is for county and state officers, chiefs of staffs and other interested physicians.

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## BC/BS DATA PROCESSING

Blue Cross/Blue Shield disclosed a major operational change in mid-September. Effective with the announcement was assumption of BC/BS data processing services (for all private coverage) by E.D.S. Federal (EDSF), a subsidiary of Texas based Electronic Data Systems Corporation. Medicare B data services have been contracted to EDSF for several years. Goal of the switch is to improve service and contain costs. Insurance Commissioner Fourdee has approved the approach preliminarily; his final okay awaits further study.

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## AMPHETAMINE RULE

Indications are the Board of Medical Examiners will have in effect by late November a rule precluding the use of amphetamines (and methylphenidate) in the treatment of obesity. Steps to implement this rule began in June. If a final BME okay is given, the Administrative Rules Office could publish the rule October 15 with the effective date 35 days hence.

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## DISPENSING

The matter of dispensing and the delegation of certain related tasks is to be reviewed by reps of the several health examining boards (medical, pharmacy, nursing, etc.) under a resolution adopted by the Interim Study Committee on Rx Drug Practices. For more info, see this month's In the Public Interest.

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## MEDICAID CURTAILMENT

Medicaid budget curtailment plans were adopted by the State Council on Social Services in September. Reductions include: claims processing expense (\$40,000); less inpatient hospital care (\$1.2 million); reduced emergency room use (\$500,000); medical expense limitation on ADC, SSI, etc., recipients (\$1.4 million); use of a single eyeglass supplier (\$211,000). Inpatient and ER cutbacks are of greatest interest to physicians. The Iowa Foundation for Medical Care is involved here.

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## ENDORSE SEER PROGRAM

IMS endorsement has been given the Iowa SEER Program (Surveillance Epidemiology End Results). This project is part of a network of population-based registries which record new cases of cancer. Endorsement was recommended by the IMS Committee on Oncology.

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## MEMBERSHIP DIRECTORY

The 1980-81 Iowa Medical Society Member Directory will be distributed in October. It contains alphabetic and geographical listings of members, plus a special 20-page section carrying information reserved by various offices and clinics.

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## MATERNITY LEAVES

Matter of maternity leaves for pregnant workers and designation of pregnancy as a disability will be considered at an October meeting of the IMS Committee on Maternal and Child Health. The topic has been referred by the Board of Trustees.

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## QUESTIONS - ANSWERS

**MRS. DOUGLAS B. DORNER  
DES MOINES, IOWA**

### RESTORED DOCTOR'S OFFICE

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*Vernell Dorner was chairman of the successful 1979/80 doctor's office restoration project undertaken by the Polk County Medical Society Auxiliary. She comments here on this unique, century-old facility now in place at Living History Farms.*

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#### **Tell us a little about the "new" old doctor's office at Living History Farms.**

R. B. Armstrong, M.D., built this small two-room office in the late 1860's in Polk City, Iowa. He practiced general medicine there until his death in 1905. In 1978, Mr. and Mrs. Glen Stanley of Polk City offered to donate the building to Living History Farms provided the Farm would restore it and use it in the developing 1870's town. The drawing shown here will give you an idea of how the office and home of Dr. Armstrong looked in Polk City.

#### **What role did the Polk County Auxiliary play?**

The Polk County Medical Society Auxiliary accepted the challenge to raise the \$35,000 necessary to relocate and restore this building. We did so because we wanted to preserve the heritage of the horse and buggy doctor in Iowa. We believed also it had a potential educational

impact — not just for the statewide medical community, but for the community at large. Accordingly, the Auxiliary supplied the volunteers who raised the funds. We did extensive research to assure the authenticity of the building's interior, and we purchased the necessary furnishings.

#### **How was the money raised?**

Almost the entire \$35,000 was raised from generous contributions of Iowa physicians and their families. Our fund raising goal was achieved in a six-month period. This support is much appreciated; we thank all those who participated.

#### **Will the Auxiliary continue its involvement?**

Yes, the Auxiliary will supply volunteers to assist with tour groups who visit the office in the spring and fall. A landscaping plan is underway to commemorate Doctor's Day next spring.

#### **When and how can we visit the Walnut Hill Doctor's Office?**

That is the official name of the facility. You can visit Living History Farms from mid-April to mid-October. The hours are from 9 a.m. to 5 p.m. LHF is located on Hickman Road just east of I-35/80. We would encourage everyone to visit the Walnut Hill Doctor's Office here in greater Des Moines to see a bit of Iowa medical history.



Office and residence of R. B. Armstrong, M.D., Polk City, Iowa.  
Courtesy of 1875 Andreas Historical Atlas.



# THINGS YOU SHOULD KNOW

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## CONCLUDE JOINT PROGRAM

The joint field service program operated by the Iowa Medical Society and Blue Shield since 1968 will end January 1. Budgetary and other considerations prompt the action. The existing close liaison between the IMS and BS will be maintained. Hope is county medical societies will continue to use for reference info the 5 field reps who will continue under the BS banner. An IMS physician contact program will be in place January 1 to offset this operational change. Maximum use will be made of the telephone in this program.

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## DUES FOR 1981

1981 dues notices will be mailed to member physicians in mid-November. Dues remain at the \$275 level set by the 1977 IMS House of Delegates. The IMS continues to provide administrative dues billing services to 87 of the county medical societies.

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## EXPAND PRIVATE REVIEW

Hospital admissions for all Blue Cross of Iowa subscribers have now come under the private review of the Iowa Foundation for Medical Care. Action to this end was taken recently by the Blue Cross Board of Directors with endorsement by the Blue Shield Board. The requirement is applicable to all member hospitals as a condition of BC participation. This development expands IFMC private review activity significantly when combined with the summer addition of two self-insured entities -- Firestone and Dubuque Pack.

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## TROUBLED PHYSICIANS

The IMS Assistance Program for Troubled Physicians was highlighted at an AMA national conference in late October. The presentation was made by Hormoz Rassekh, M.D., chairman of the IMS Committee on APTP. This committee met recently with physician advocates serving the program. Inquiries about the program may be directed to IMS headquarters (800/422-3070 or 515/223-1401).

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## DISPENSING CONSIDERATIONS

At its 10/9 meeting the Board of Medical Examiners approved preliminary rules covering the packaging/labeling of medications by dispensing physicians. Also okayed initially were regs dealing with the delegation of certain tasks in this area by dispensers. These items were to be considered October 28 at a meeting of reps of the various health licensing boards. The outcome here will go back to the BME.

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## CAR RENTAL DISCOUNT

Redistribution will be made with the UPDATE in November of discount cards covering the IMS/Avis car rental program. Card users may obtain 25% discounts on continental rentals; 10% discounts apply in Hawaii, Canada and internationally.

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## IFMC STUDIES

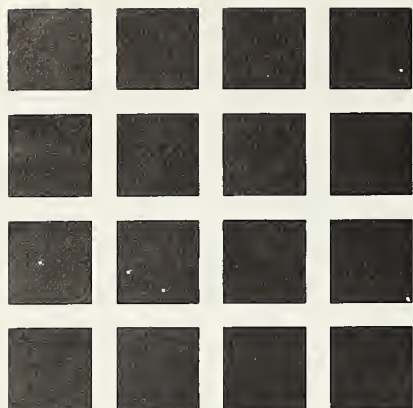
1981 shared study topics of the Iowa Foundation for Medical Care will include anesthesia, acute myocardial infarction and phototherapy for neonatal jaundice. Iowa hospitals are required to participate in two of the three topics. The IMS JOURNAL has published summaries of previous shared studies.

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## FOUNDATION LOANS

Loans totalling \$47,740 have been made this fall to Iowans attending medical school under the program of the Iowa Medical Society Foundation (Scanlon Foundation). Additional commitments of \$14,000 bring the expected educational outlay for 1980/81 to \$61,740.

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# paperless claims system

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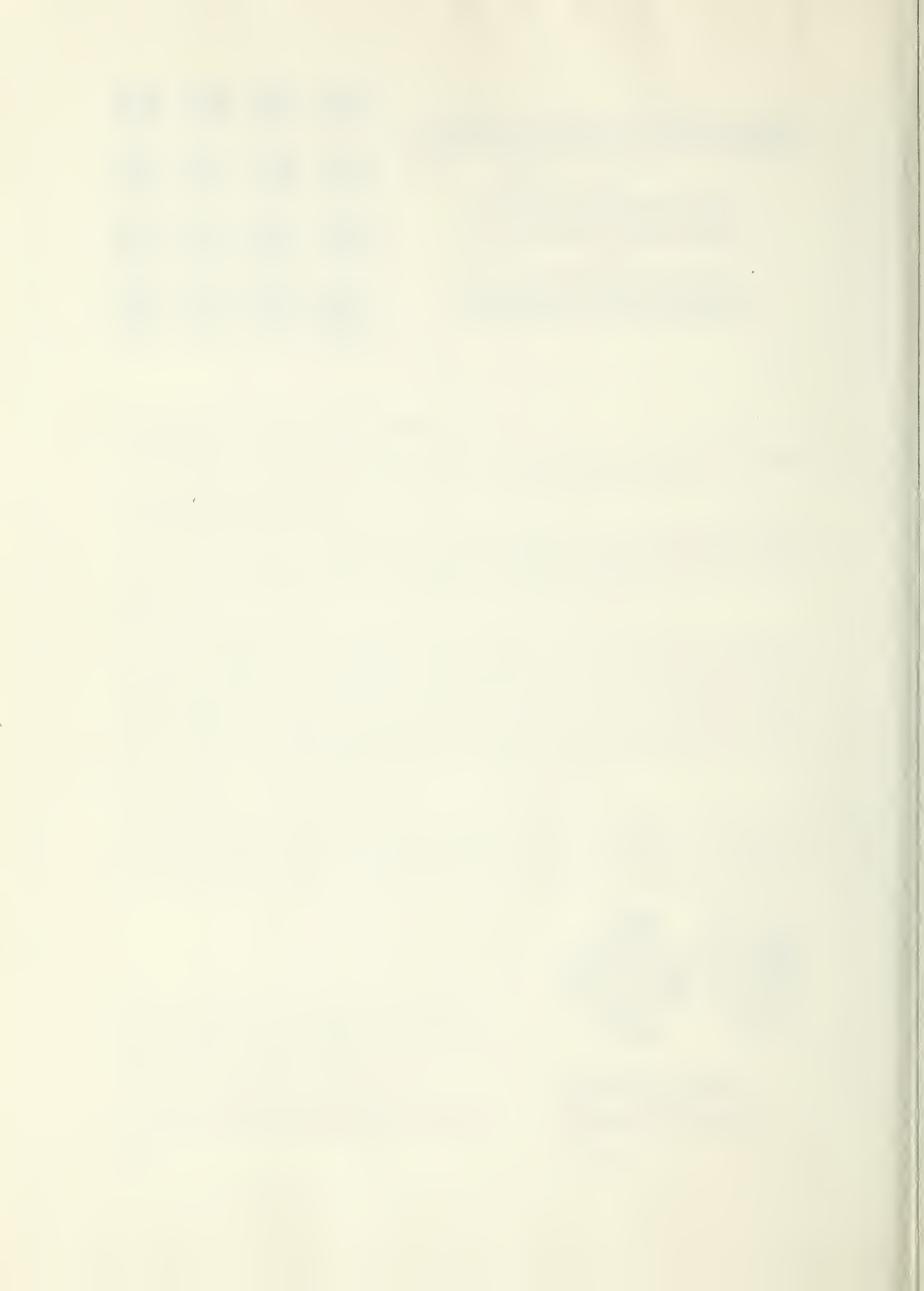
**Check for Blue Cross and Blue Shield of Iowa training workshops in your area.**



**Blue Cross  
Blue Shield**  
of Iowa

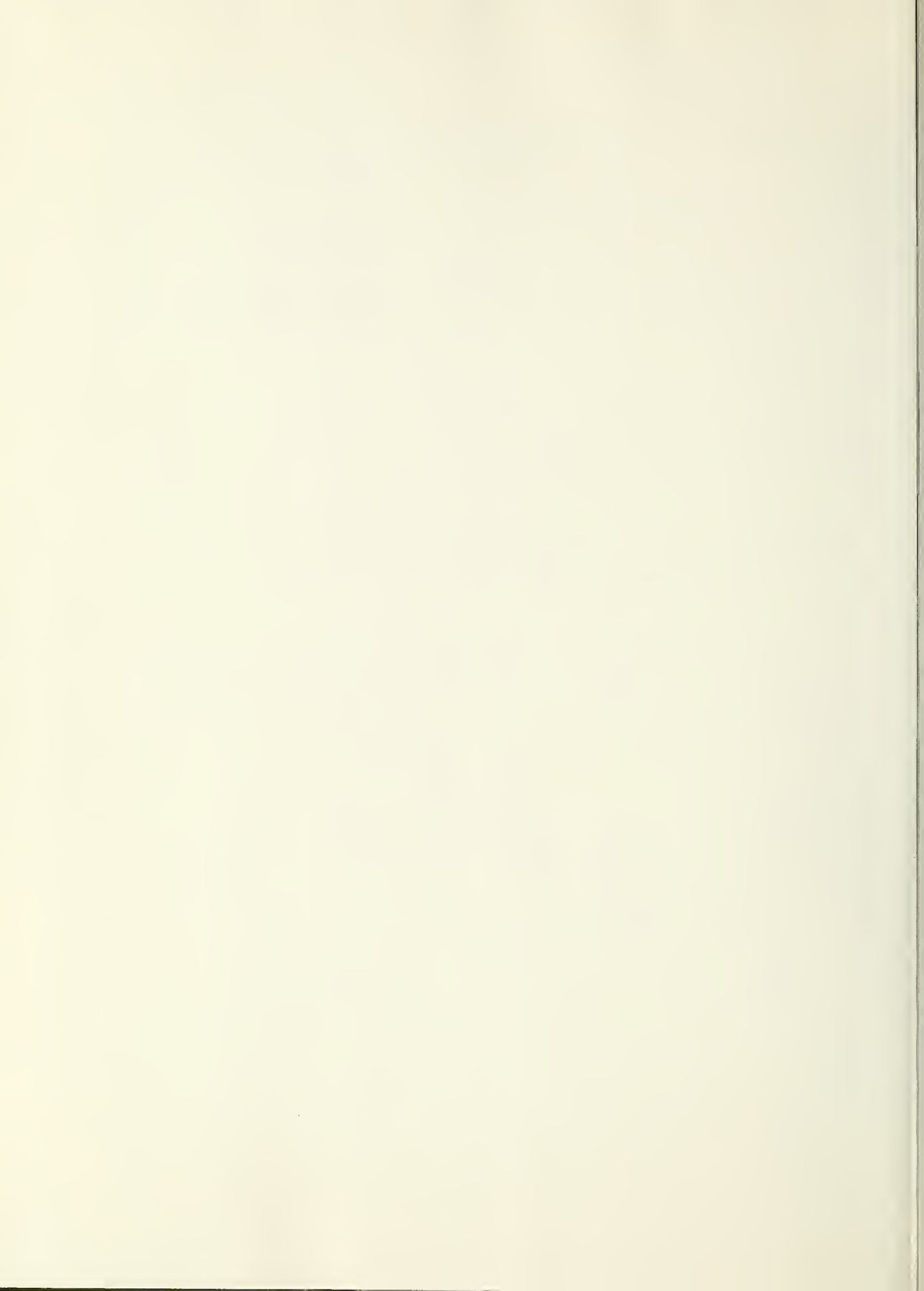














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